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BOREAS AND THE BLOSSOMS OF THE SOUTH.

THE long, cold winter just left behind us, played havoc with the luxuriant rose bushes of all the Southern States. From a number of the Charleston gardens there rises a wail over great Banksias and Marechal Niels which were and are not,—unless they slowly rally their forces and send up shoots from the root later on, as many of our roses are doing. This is better for us than we hoped at first, but it will take the mycrophyllas, Glorie de Dijons and Cloth of Golds a long time to reach the balconies and second story windows again; to laugh at us from high porticos, and to spill their perfumed petals over the polished floors of upper hallways.

Better for us had we planted more of the hardy roses to cheer us through these flowerless days until the Teas recruit again! But no, we said, the hybrids do not bloom often or long enough. Give us roses that will bloom all the time! So it is with the deaf adder that stoppeth her ear. By and by something drives the cotton in till it hurts. Safe to say we will now more carefully consider the reputation for hardiness of the roses we plant. Queer it is how most of the single roses have come out unscathed,—multiflora, setigera, the hybrid sweet briars, Cherokee, Wichuraiana and others. I am wondering if they were equally fortunate all over the north, and, if so, if they will not have an even greater rush of favor another year.

The moss roses, my two or three dozen hybrids, the mycrophyllas, some Bourbons, Bengals, and a few of the hardier Teas were unhurt. Of the others, only sprouting shoots are left, but I am not disconsolate, for roses grow very rapidly in the South, and they will be blooming again before long.

How are the new roses, offered this year, as to hardiness, I wonder.

Admiral Dewey and Maid of Honor are the two new pink roses that we hear a great deal about now-a-days. To me, both are disappointing. Oh, for more handsome, true yellow and real scarlet roses! The multitude of pinks, dingy whites, and purple crimsons is already exasperating. Something really fine I think we may hope for in Liberty, the

bright red rose to be introduced next year; but a fine rose under glass is not always recognizable in the garden.

Souvenir du President Carnot is one of my hybrid Teas that lived through the freeze. This fact has moved me to special rejoicing, for it is a great favorite of mine. Its long, full, elegant buds of soft, pale flesh-pink are the most beautiful flowers in the garden,—prettier even than my favorite white La France. When once established it grows nicely,

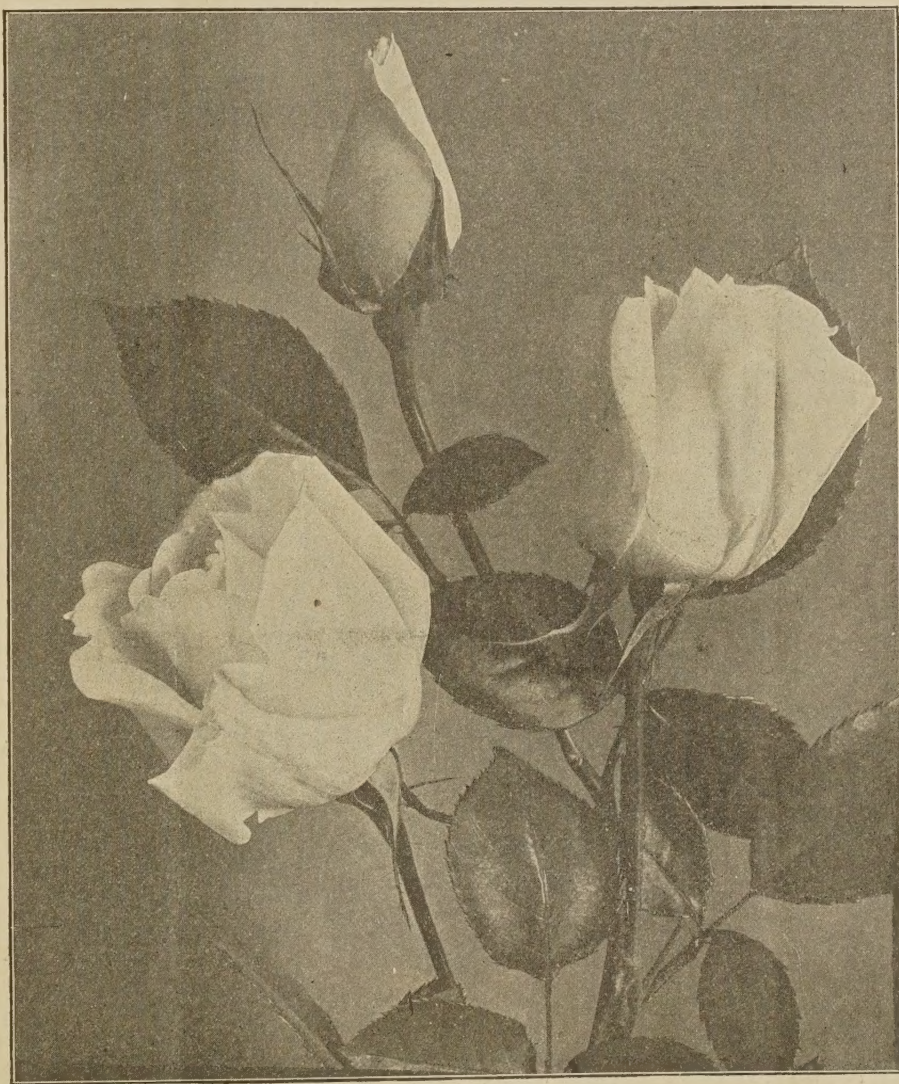
too, and you can cut a handful of elegant buds from a good bush almost any day.

A little town not very far away from us is famous for its magnolias and crape myrtles in the spring. Magnolia grandiflora grows there in all its beauty, but it is very hard to photograph. The flowers are of the thick, waxen texture that bruises quite easily and turns dark very soon. I do not think I ever saw a good photograph of an open flower of this great magnolia.

"In the cool twilight or its lucent leaves"

lurk a charm that the camera never yet has caught. To a young graduate of our school was sent, one commencement night, a single great, perfect, white flower of this magnolia in its own setting of broad, dark, shining leaves. How it dimmed into nothingness the mussy bunches and baskets of roses and carnations.

Magnolia conspicua and M. Soulangeana are extremely showy, and bloom like a perfect snow-



Photographed by
J. Horace McFarland

ROSE, SOUVENIR DU
PRESIDENT CARNOT

storm in their season, but, apart from the great magnolia, little M. stellata, Hall's Japan magnolia, is my favorite among them all. It forms a broad, spreading little bush only a few feet high, and, very early in spring—the very first of all the magnolias, indeed,—opens its multitude of snowy, starry flowers. The petals are longer, narrower and more numerous than in some other varieties, and for this reason the flowers are sometimes called semi-double, but they really are not. They are quite fragrant, though, and the leaves are glossy.

Our great crape myrtle bushes, I fear, have gone the way of the camellia groves of Charleston, but we shall not cut them down just yet.

I do not forget a season of mourning held over a tree of my childhood which we discovered was budding on some of the top branches after it had been cut down. Some of our tender trees are very slow in starting after such a freeze, but they do frequently creep back into leaf and flower after we have thought them dead. Most of us have learned to plant our tender trees and shrubs on cold northern exposures, where they will not get much sun in winter, where the sap hides away snug and warm far down in their roots, and where they will not open their buds early enough in spring to be caught by returning frosts. The crape myrtles send up shoots thickly around the roots of a winter-killed trunk, and when about three feet high blossom into great beds of bloom. At a little distance you would think that the perennial white and rose-lilac phloxes were blooming in spring.

The North Pole and the Polar bear have avenged our invasions abundantly this winter. We know quite enough about them. Following Bill Nye's example, let us beseech the balloonists to let them alone.

L. GREENLEE.

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SUCCESS WITH FERNS.

NO PLANTS receive more admiration than ferns. Fine specimens vie with the palms for the honors, in the estimation of many, and little wonder when we consider their graceful and peculiar foliage. To me they seem to fill a place wholly their own; giving the softening and refining touch to whatever combination of other plants employed for decorative purposes. No daintier, all-the-year-round centerpiece for the table can be found than some of the lighter and dwarfer kinds. *Davallia stricta* is exquisite. Single clumps of *Nephrolepis exaltata*, when well grown, are beautiful for the parlor or hall; equally so for the piazza in summer. Far more graceful for this purpose, because of its distinctive drooping habit, is the ever popular Boston Fern, sometimes called the Fountain Fern, of which the fronds, on a fine specimen, will measure four feet in length, drooping gracefully from all side, and making it one of the finest plants for a hanging basket in a shaded window, or a pot on a standard, or on a light table. This spring a novelty is offered in the way of ferns from Japan, and judging from the colored plate, it must be as beautiful as it is unique. I have no knowledge of this plant wonder, save that gleaned from Vick's Floral Guide, with their endorsement, which is a sufficient guarantee of its value. It is very beautiful, reminding one, in its habit of growth, of *Davallia stricta*. Aside from its charming foliage, it will prove a powerful rival of the loveliest of our basket and table ferns, because of its obliging nature, adapting itself to a variety of uses, as well as to the convenience of its owner. It may be made to serve in hanging basket effect, or, cut in halves, may be grown in a fern dish to adorn the family table, crown a pedestal, or grace a fancy table in parlor or hall. We are told that it may be allowed to dry up at one's pleasure, to be stowed away during our absence from home or in a busy season, and started again at will, after a season of rest, by simply watering it. A novelty with many-sided merits.

Many amateurs find difficulty in growing ferns because of wrong ideas regarding their simple requirements. Lack of moisture in the atmosphere is a great bar to success and it is next to impossible to grow many species outside of a greenhouse or well managed conservatory. A goodly number of the very choicest belong to this class. A varied collection of very handsome ferns, however, may be grown into imposing

specimens, in an ordinary plant window, with the observance of a few simple rules, combined with ordinary judgment. Anticipating the demand for just such a collection, a carefully selected list is given in the Guide mentioned, adapted to the needs of amateurs without greenhouse facilities. Lovely and distinctive, strongly contrasting, not a hint even of similarity in the whole collection, and all at a merely nominal price. I speak of their beauty from experience. The plants reached me about Christmas time, and although I had been prepared by past experience for fine, thrifty plants, I had not even dreamed of such luxuriant specimens as greeted me, when they emerged from their snug wrappings as fresh and bright as when they left their congenial home quarters.

How to manage ferns when they come to you from the florist: If the intention be to pot them singly, they should be repotted in a size larger only than the pots they have occupied. If received by mail, with the soil washed from the roots, put the plants into as small pots as will naturally accommodate the size of their roots. Place bits of

charcoal or broken pottery, an inch in depth, in the bottom of the pot for drainage. Cover this, with a thin layer of moss or leafy refuse to prevent the soil from washing through. An ideal soil is rich, flaky leafmold, with one-fourth part coarse, sharp sand well mixed in. In the absence of leaf-mold, well rotted sod, rich in decayed roots, is excellent; or chip dirt, mixed with decayed straw or such matter; with either of these use the same proportion of coarse sand. One need not always go to the woods for leafmold; in many a sheltered fence corner, and under the edge of walks, the leaves from shade and other trees find lodgment year after year, and decay. Manure should not be added to the soil for ferns; an exception may be made with very strong-growing varieties,—a little may be added with beneficial results, if so thoroughly decayed that it looks like rich, black earth. A few bits of charcoal, varying from the size of a pea to that of a hazelnut, may be scattered through the soil; they keep the soil sweet and the fern roots seem to like the little nooks and crannies afforded by them. Bits of broken brick may be substituted; either hold moisture, and you will find when turning the plants out for repotting that the main mass of roots have made their way around these, and down into the drainage matter in the bottom.

A collection like that to which I have referred, instead of being potted separately, may be kept together in one pot or dish. Mine went into my choicest dish as far as utility is concerned,—a heavy marble mortar, nine inches in diameter, its wall an inch in thickness and the outside painted a neutral shade.

The more delicate kinds were ranged outside, and under the protecting arms of those stronger and of ranker growth. Having procured and carefully potted the plants, carefully press the light, flaky soil down around them with the hands, and water sufficiently to moisten the soil clear through. Place them under a box in a moderately warm place for twenty-four hours; this will hold moisture in the air sufficiently to prevent the leaves from drying. After this, keep the plants in the shade for two or three days more, when they may be placed in full light but not sunshine.

Now, as to watering them; there is a mistaken idea that ferns must be kept in a soaked condition, and many a handsome one has been literally drenched to death. They need only to be kept moist, and should never be watered when the soil is already wet. What they do need for best results is moisture in the atmosphere. Without a Wardian case or greenhouse facilities one must resort to some of the many artificial



SPRAYS OF
CRAPE MYRTLE

means, which have been given so often that repetition seems needless. Daily showering is a wonderful aid, and if, in addition to this, pots are kept plunged in a box of sand which is kept soaked with water, they will need no watering. The latter, however, is not a necessity.

MRS. A. H. HAZLETT.

ROSES.

WERE I to have but one flower that one should surely be a rose, for whether it bloomed each month or only in the fragrant June-time, it would more than repay me for the care bestowed upon it. The most valuable kinds are the La France roses, which, possessing the advantage of hardiness, bloom until late autumn. The white and red varieties are my choice.

So much has been written of the Rambler roses that it seems nothing more can be said; but their dainty loveliness cannot be described and must be seen to be truly appreciated. In rapidity of growth they are unexcelled; a friend has one that at the end of its third year measured twelve feet in height, but this phenomenal growth was secured at the cost of side branches, although it blossomed profusely.

In every list of hardy roses Vick's Caprice should stand among those at the head. One of its admirable qualities is the ease with which it may be slipped, for its branches or slips never fail to take root if properly cared for. Those following are the Margaret Dickson and the Paul Neyron. Every flower-lover should find room for the three varieties mentioned.

Although I have found them less satisfactory and requiring more care, a few monthly roses are desirable. Queen's Scarlet is especially good, being sufficiently hardy to withstand the trying winter of 1898-'99 in Northern Pennsylvania without covering. The blossoms were borne profusely until very late, there being unopened buds on the plant in November.

Next to Queen's Scarlet, the Bridesmaid, Mary Washington, Catherine Mermet, Papa Gontier and Henry M. Stanley seem to me the best, the last named being of indescribable beauty, although I find that it will not last in water after being cut. For vases, Papa Gontier and Madame Lambard are excellent and retain their beauty for several days.

LALIA MITCHELL.

ABUTILONS FOR WINTER BLOOM.—I have found that the best results are obtained from one-year-old plants cut back rather hard in early spring and grown along liberally during the summer months. The plants may be set out in the open ground, to be lifted and repotted by the middle of September, keeping them rather close for a week until they have made new roots, when they must again get all the air and sunshine possible. If grown in pots they must be liberally fed from the time they become root-bound. In a temperature of about 50° the flowers will continue to expand during the winter.—*J. C. B., in The Garden.*

THE MOUNTAIN LAUREL AND THE GREAT RHODODENDRON.

TWO of the finest of our mountain wild flowers are now at their best. Throughout the month of June, and even during July, the Mountain Laurel and the wild rhododendron will make our hills and mountains, in many localities, one mass of glowing beauty. The native varieties are found very sparingly in the parks and in suburban groves surrounding Philadelphia; but a little farther west they are among the most common as well as the favorite wild flowering shrubs.

WHERE THE MOUNTAIN LAUREL IS FOUND.

The Mountain Laurel, *Kalmia latifolia*, is also popularly known as "spoonwood" and "calico bush." It is not the laurel of the ancients. The shining green leaves which surround the white or rose-colored flowers, are familiar to all who have skirted the west shore of the Hudson River, wandered across the hills that lie in its vicinity, or clambered across the mountains of Pennsylvania, where the shrub sometimes grows to a height of thirty feet. Not that these localities limit its range, for it abounds more or less from Canada to Florida, and far inland; especially among the mountains, whose sides are often clothed with the flowers, apparently as with a mantle of pink snow, during the month of June, and whose waste places are, in very truth, made to blossom like the rose at this season.

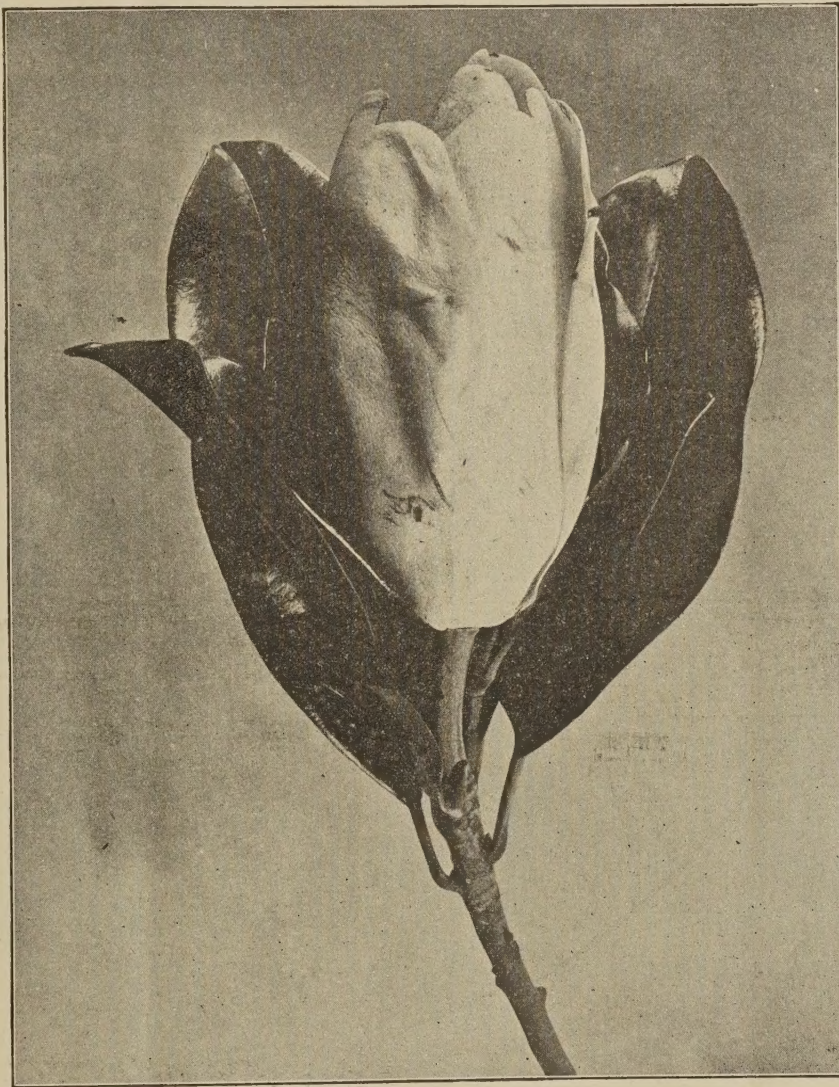
POPULAR BELIEF AS TO POISONOUS QUALITIES.

The leaves of our species are supposed to possess poisonous qualities, and are said to have been used by the Indians for suicidal purposes. There is also a popular belief that the flesh of a partridge which has fed upon its fruit becomes poisonous. The clammy exudation about the flower-stalks and blossoms may serve the purpose of excluding from the flower such small insects as would otherwise crawl up to it, dislodge the stamens, scatter the pollen, and yet be unable to carry it to its proper destination on the pistil of another flower.

HOW CROSS-FERTILIZATION IS SECURED.

The ingenious contrivance of these flowers to secure cross fertilization is most interesting. The long filaments of the stamen are arched by each anther being caught in a little pouch of the corolla; the disturbance caused by the sudden alighting of an insect on the blossom, or the quick brush of an insect's wing, dislodges the anthers from their niches, and the stamens spring upwards with such violence that the pollen is jerked from its hiding place in the pore of the anther-cell, some of it falling on the body of the insect visitor, who straightway carries it off to another flower, upon whose protruding stigma it is sure to be inadvertently deposited.

In order to see the working of this for one's self, it is only necessary to pick a fresh blossom and either brush the corolla quickly with one's finger, or touch the stamens suddenly with a pin, when the anthers will be dislodged, and the pollen will be seen to fly.



MAGNOLIA GRANDIFLORA

THE SOURCE OF ITS VARIOUS NAMES.

The botanical name *Kalmia* was given to this shrub by Linnæus, after Peter Kalm, one of his pupils who travelled in this country, who was perhaps the first to make known the shrub to his great master.

The popular name "spoonwood" grew from its use by the Indians for making eating utensils. The wood is of fine grain and takes a good polish.

The title "calico bush" probably arose from the marking of the corolla, which, to an imaginative mind, might suggest the cheap cotton prints sold in the country stores near the favorite haunts of this shrub.

THE AMERICAN RHODODENDRON, OR GREAT LAUREL.

The American rhododendron, *Rhododendron maximum*, belongs to the same family as the Mountain Laurel, and is popularly known as the "Great Rhododendron." The woods which cover many of the mountains of our Eastern States hide from all but the bold explorer, we are told, a radiant display of this plant from the early part of July. Then the lovely waxy flower clusters of the American rhododendron are in the fullness of their beauty. As in the Mountain Laurel, the clammy flower-stalks seem fitted to protect the blossoms from the depredations of small and useless insects, while the markings on the corolla attract the attention of the desirable bee. In those parts of the country where the plant flourishes most luxuriantly, veritable rhododendron jungles, termed "hells" by the mountaineers, are formed. The branches reach out and interlace in such a fashion as to be almost impassable.

Specimens of Mountain Laurel and Great Rhododendron are highly prized in beds of hardy shrubbery frequently found on large lawns; and when the treasured specimens are cultivated to their full development, and display their numerous flower clusters during June and July, it is difficult to imagine that great groves of these shrubby trees waste their beauty on the mountain sides each year. The Great Rhododendron is seldom found growing wild in our suburban woods; but the Mountain Laurel grows and blooms abundantly in many of the groves and woody hills surrounding Philadelphia.

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YELLOW CALLAS.—G. W. O., in the *Florists' Exchange*, says: A few yellow callas have been grown around here this season; some of them are just showing (early in April) flowers. It would seem, however, to be true that they need a greater amount of heat than the ordinary white species, and that they are benefitted by a shorter resting period, or even keeping them in a growing state all the year round. The flower spathes are of a rich, deep yellow.

ROSE CULTURE IN VIRGINIA.

IN the following remarks I do not presume to give any new ideas to the experienced grower, on the successful cultivation of roses; I write only with the view of aiding amateurs and beginners, so they can avoid the many mistakes and disappointments attending the lack of proper knowledge of how the rose can be successfully cultivated. I will not confine my suggestions to any special class of roses, but will mention those best suited to out-of-door or garden culture in Southern Virginia. I have been successful with all classes of roses, but the Hybrid Perpetuals and the Hybrid Tea roses are preferable, as they will endure extremely cold weather, which here is when the mercury goes to zero and a few degrees below.

The first perplexing thought to the amateur is what varieties of roses shall be selected to insure blossoms throughout the season. Not knowing the different classes of roses, they read over the various catalogues and select from the long lists the ever-blooming roses, thinking that with such plants they will never be without blooms. They do not know that some of the Hybrid Teas bloom as continuously as the so-called ever-blooming class, and are very much more hardy; nor do they know the names of any of the Hybrid Perpetuals that bloom continuously, so it is to aid those so situated that I propose to tell them what I have learned by observation, study, and experiment. I have had my neighbors ask me how it is that I have roses all through the season, when they have had none in a long time, and they would be surprised when I told them I had studied to have different classes of roses that were free and continuous bloomers, each of its class; and I have made lists for such persons so they might have roses like mine, and some always in bloom. From the long list of Hybrid Perpetuals I have selected only those that bloom at intervals all through the summer season; the larger class of Hybrids bloom profusely only once a year, their season of blooming being in the months of May and the early part of June. The following is such a list and it will be found to comprise very satisfactory variety: American Beauty, Jules Margottin, Gloire de Margottin, Giant of Battles, General Washington, Ulan of Aragon, Magna Charta, Paul Neyron, Pæonia, Prince Camille de Rohan, General Jacqueminot, Ulrich Brunner, Dinsmore, Mrs. John Laing, Madame Charles Wood, Madame Masson, Coquette des Blanches. The three last named are perpetual bloomers, bearing flowers from May until October, and are as free bloomers as Tea roses. This class of roses, when once established, lasts for many years; I have them fifteen years of age and have never cut them to the ground, although they were pruned every year. Paul



THE NEW PINK ROSE
ADMIRAL DEWEY
(see page 118)

P. W. H.

Neyron gives the largest blooms of any of the above named, and it is entirely thornless, as is Ulrich Brunner, which is a sport from it.

The most popular, as well as the most beautiful, of the Hybrid Teas are Viscountess Folkstone, Meteor, La France, Margaret Dickson, Kaiserin Augusta Victoria, Madame Schwaller, the last named being the most constant bloomer I ever saw.

From the long list of Tea roses I will only mention the names of those that have proved the most hardy and beautiful. The first and finest of the rich golden yellow Teas is Etoile de Lyon, which is a constant and profuse bloomer, Duchesse

by digging holes twelve or fourteen inches wide and as deep, and had these holes dug eighteen inches apart; the holes were then filled with well rotted cow manure mixed with a little rich soil and just a little clay soil. Only roses were planted in these beds, as they thrive better when apart from other flowers. The proper time for planting little roses is from the middle of April to the middle of May,— depending, however, on the spring, as often after the middle of May, the sun is hot enough to kill them. I have planted them the first of April and turned glasses over them so the cool spells or frosts could not hurt them, and they grew off beautifully. As soon as they began to take



ROSE, SOUVENIR DE
CATHERINE GUILLOT (see page 121)

de Brabant, Marie Duchesse Salviata, Franciska Kruger, Grand Duc Guillaume de Luxembourg, La Pactole, Luciole, The Bride, The Queen, Madame Elie Lambert, Madame Margottin, Madame Cecil Berthod, Madame Welch, Madame Hoste, Marie Guillot, Maman Cochet, Golden Gate, Bridesmaid, La Sylphide. There are many other handsome and desirable roses, but these are the ones with which I have been successful and are my favorites; those who wish to select roses, but are at a loss to know which, cannot make a mistake in following the list of varieties here named.

To plant and care for roses is more important than the selection, as the best will give no return without proper work. I made my rose beds in a very poor, stiff clay soil, on which was thoroughly spread rich stable manure and the ground then thoroughly spaded. I then laid off the beds

hold and root, and bud and leaf, dig around them with a small trowel and loosen the earth, taking care not to dig too closely to the little rose, which might uproot it. This process should be repeated every week or so when the earth begins to harden a little, and if properly cared for, in two months time the roses will be large enough to work with a narrow, sharp-pointed hoe. As soon as certain the roses have taken root, feed liberally with liquid manure made of cow- and hen-droppings and apply this once a week; they will revel under this treatment, but care must be taken not to mix in too much hen manure, as it is very strong and more than necessary will kill the plants. The bushes should be allowed to mature only one

bud at a time until autumn, as maturing buds retards the growth of the plant; the second summer there will be a splendid display, and those who see them can hardly believe the bushes are so young. If roses here are put out in the latter part of May or first of June, it is best to shade them from the sun for a week or ten days, by sticking little leafy boughs around them so as to conceal them and thus form a canopy over them. I have noticed that roses planted in clay soil are longer lived than those in light, gray soil. The rose is a gross feeder, and its cry is for "More, more," continually; in fact, you cannot make the soil to rich for them. For winter protection, a covering of leaves and straw around the roots and then hill up with earth some eight or ten inches high, will be ample. After the blizzard of February last, I examined my Tea roses and although the tops above the little hill were all killed, they were alive and green up to the top of the soil; this was through zero weather lasting a week.

The pruning of roses is a great benefit, as it keeps the bushes in a healthy and thrifty condition, and produces larger and finer roses, although not as many as when the bushes are allowed to go unpruned. But as roses grow so differently, some judgement has to be used in pruning; some are rampant growers and need more pruning than others that are neat and compact in their habit. The best times for pruning are very early in spring, before the bushes begin to leaf, and after the spring blooming is over; about one-fourth of the growth should be taken off and also such branches as seem to be in an unhealthy condition. The unhealthy wood can be easily distinguished from the other, as it looks pale or yellow-green and the leaves are small and pale in color.

With these simple directions few can fail to have beautiful roses, the queen of all flowers and a joy to both the beholder and the possessor.

Virginia.

MRS. EMMA WILSON.

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NICOTIANA SYLVESTRIS.

A new ornamental species of tobacco, if this term may be used in a

general way, has recently been put into the trade and is described as having more than usual merit. This is *Nicotiana sylvestris*. It is a native of the Argentine Republic, where it was discovered, not long since, at an altitude of more than 5,000 feet.

The engraving here presented is copied from *La Semaine Horticole*, but judging from the description given of it in that journal and elsewhere, it is probable that it does not do justice to the plant, which, with leaves larger and more erect than here represented, has a more majestic aspect than appears in the engraving.

The large, white, tubular and drooping



NICOTIANA SYLVESTRIS

flowers are borne in graceful panicles at the summit of the main stem and the principal branches; the flowers have very sweet and pleasant odor, especially in the morning.

The plants can be easily raised from seed, like others of the genus, and can be employed as pot plants or they may be planted out in groups or beds on the lawn. The seeds of this plant will, no doubt, be offered in the trade next season in this country.

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IN reference to the new Dewey rose, the New York *Despatch* says that is a graceful way of perpetuating the fact that Dewey rose early on the morning of the battle of Manila Bay.

THE NEW ROSES.



IN regard to roses, the question the amateur is most interested in is what are the best varieties. How is the question to be answered? If he consults the catalogue of one dealer only, it is possible after much study to arrive at some general conclusions, but if he looks further and reads what different growers and dealers have to say, he finds that he has engaged in an unsolvable riddle.

What with the Climbers and the Ramblers, the H. P.s and the H. T.s, the Teas and Noisettes, and Polyanthas and Wichuraianas, and the Hybrid Briers and Rugosas and T. rugosas, and who knows what else, he is lost completely.

The only advice we would give to a person in this extremity is to take the best advice you can get, whether from a personal source or from books and catalogues. It is like learning to swim,—the main point is to jump into the water and make the motions; in time, if persistent, some headway will be made; but all depends on one's own exertions, one must be self-reliant. We at least may hope that some substantial help may be afforded amateurs, as well as professional rose growers, when the recently reorganized American Rose Society has fairly engaged in its work, by arranging lists that shall include only the most worthy varieties of each class for particular purposes. Year by year varieties multiply, and so rapidly that the most zealous rose-lover, with unlimited resources, cannot keep pace with the unending procession. We know that there is improvement and a slow gain represented by a few varieties that from time to time assume special prominence and replace older kinds. So, gradually we are reaching higher standards, and among the hundreds and thousands of new varieties brought forward in a decade or a quarter century, we have a few that surpass all others. As time passes this country increases annually in its new gains, and we shall soon have a considerable number of different kinds, in the different classes of roses, of American origin. At present several new varieties are of interest to the public. On page 116 is represented the Hybrid Tea rose, Admiral Dewey, originated by John H. Taylor, of Bayside, Long Island. The following extract from a letter received from Mr. Taylor, in April, gives a full account of the new-comer with a distinguished name:

Admiral Dewey is a sport from Madame Caroline Testout, which originated with me five years ago. It has improved steadily in size of flower, color and strength, and I can now recommend it, either as a forcing rose or for outside summer bedding, as it is perfectly hardy, having even lived through without protection this last very cold winter. It blooms continuously from June until cut down by the frost in the fall. In color it is a delicate shade of bright pink, shading to pure white, thus filling a class for winter blooming badly needed by the florists. In shape the bud is long, globular and very full, expanding into a very large, full rose. It is more prolific and of stronger growth than its parent, the flowers all coming on stiff stems.

The editor or reporter of the *Florists' Exchange* visited Mr. Taylor's place last winter and saw the plants in bloom, and has the following to say about it in that journal, in the issue of February 4, 1899:

We recently saw the several houses devoted to this rose at Mr. Taylor's establishment, and it is undoubtedly an acquisition, its color being unlike that of any other of the standard varieties. It is a very delicate blush-pink, shading to white, and shows up well under artificial light. The buds are globular in shape, fragrant, and develop into very large flowers, remaining full in the center and retaining the delicate color. It is a good keeper, the petals being very fleshy, with lots of substance. Stems can be cut from twenty-four to thirty inches in length. As grown here the plants are set rather close, no blind wood being ever produced. The temperature maintained is the same as that given Bride and Bridesmaid. After a flower is cut the stock breaks away again freely, and every shoot carries a flower. The plants are all strong and vigorous. One bench planted as late as September was showing up very well for so late, proving that with either early or late planting the variety can be grown successfully.

We were much impressed with the rose all round,—the habit of plant, size of flower, length of stem, delicate color and fragrance, all helping to make it first-class.

At the Vanderbilt-Fair wedding in New York, early in April, the guests' table were decorated with Admiral Dewey roses.

LADY DOROTHEA, a Tea variety, is offered by John H. Dunlop, of Toronto, Ontario. This rose was the winner of a silver cup as the best new rose exhibited at the Chrysanthemum Show, November, 1898. It has, also, received Certificates of Merit at New York and Toronto. The plant is said to be very attractive, having luxuriant foliage and strong stems. The color appears to be of various rosy tints,—outside petals deep peach-blush, inside a soft flesh-pink. In a later issue we hope to give an engraving of this variety, and further information in regard to it.

IVORY is the name of a new variety of Tea rose, a sport from Golden Gate, being sent out by the American Rose Co., of Washington, D. C. The color is ivory-white, and the general habit of the plant is similar to Golden Gate, which is one of the most valuable and reliable of the Tea roses.

MAID OF HONOR is what was called last year Miss Clara Barton. A sport from Catharine Mermet. The plant is said to be a prolific bloomer

and the color of the flower a rich glowing pink, darker than that of Bridesmaid.

Great expectations have been raised by the publication in trade journals of accounts of a new crimson Hybrid Tea rose, called **LIBERTY**, and possessed by Mr. Ernest Asmus, West Hoboken, N. J. The indications are that it may surpass and supersede the favorite rose, Meteor. An account is given in the *Florists' Review* of a visit to Mr. Asmus' place in February last, at which time a large house filled with this variety was in bloom. The writer says:

While Meteor is the only forcing rose we have with which it may be compared, it seems almost absurd to class them together. Liberty is not only larger and of better shape, but the color is superb, the petals covered with a fine bloom, like those of the old Jacqueminot, and it possesses that crowning glory, a strong but delicate fragrance that would alone make it popular. And most important to the commercial grower, it gives every evidence of being a very free and continuous producer. If Liberty fulfills all its promises, and we see no reason why it should not, Meteor will be universally dropped as soon as Liberty has been generally disseminated. It will be introduced during the spring of 1900. * * * The growth and bloom seen in this house at the time of our visit were certainly remarkable and bear out Mr. Asmus' assertion that Liberty is an even freer bloomer than Meteor. A peculiarity of the growth is that if cut back when the wood is ripened there will be only one break, always bringing a bloom, while if a bud is pinched out when the shoot is soft there will be two or more breaks. The blooms seen on the plants were nearly all equal to those shown at the exhibitions, and there was no variation whatever in color. Mr. Asmus' record shows that he cut an average of twenty-two blooms per plant (1035 plants) for the four months ending January 1st last. At Christmas time the best blooms sold at \$50 a hundred and the seconds at \$25. So he has already made a good deal on Liberty from the flowers alone.

VICTORY is the name given to a new crimson Hybrid Perpetual rose by the well-known rose-growers, Dingee & Conard, and which they are sending out this spring. A colored figure of it is given on the cover of their catalogue, and the appearance is very beautiful. The following is their description:

The Victory is an ideal variety. It is a free blooming, strong growing, hardy Hybrid Perpetual; it blooms more freely than any other Hybrid Perpetual variety, a feature both rare and desirable. Perhaps no rose has stood the test of continued use as well as the General Jacqueminot; it is popular the world over because it deserves to be. To say the Victory rose is an improvement on General Jacqueminot we think suggests its wonderful value. The flowers are magnificently made, very full, round and double, of immense size and splendid substance; petals large and smooth. It is absolute perfection in form of bud and flower. The flowers are borne both early and late on long, stiff stems and are sweetly fragrant. The color is deep crimson, rich and velvety. The foliage is the handsomest we have ever seen on any rose,—deep green, large and of the greatest substance, giving it great value for outdoor planting. It is a strong grower, with the healthiest root action.

From this account it is certainly a remarkable variety, and must speedily come to the front.

Ellwanger & Barry, of this city, offer a new rose under the name of **WHITE DAWSON**. The following is their brief description of it:

A sport found in our nurseries, from the well-known Dawson rose, which was originated by Mr. Jackson Dawson of the Arnold Arboretum. Flowers in clusters of twenty-five, single and of beautiful form, two inches in diameter, pure white with yellow anthers, forming a pleasing contrast, fragrant, covering the plant with a mass of bloom; foliage shining and smooth. Quite distinct and ornamental. A great acquisition. Plant very vigorous.

From its origin and name this plant is undoubtedly a hardy climber, and as such a desirable addition to this class of roses.

The Conard & Jones Co., of West Grove, Pa., offer a new Tea-polyantha rose called **MISS CLARA BARTON**, a cross between American

Beauty and Clothilde Soupert. The following is the description given by the introducers:

The color is a rare and exquisite shade of delicate amber-pink, entirely different from any other rose with which we are acquainted. The flowers are quite large, three to three and one-half inches in diameter, and double to the center; they are delightfully fragrant, and each one is set in a lovely rosette of leaves, completely encircling the flower and making it an elegant bouquet in itself. It is a most constant and abundant bloomer, continuously loaded with flowers during the whole growing season, and if taken indoors before cold weather, will bloom all winter as well.

The same establishment also offers **THE ROYAL CLUSTER**, a new, double, white, hardy, climbing rose, a cross between Dawson and Hermosa. Blooms in clusters; flowers of medium size, sometimes faintly tinted with blush, and having a spicy fragrance. The originators recommend it as the best white hardy climbing rose.

A climbing moss rose! Such is the announcement of Henry A. Dreer, of Philadelphia, in offering the variety **CUMBERLAND BELLE**. It

is quite an unlooked-for departure, and it is hoped that it may prove to be as desirable as it is novel. This is Mr. Dreer's account:

We take pleasure in offering for the first time to the legion of lovers of the Queen of Flowers, this, the forerunner of a new race of roses, a grand true climbing Moss rose. It is of American origin, having been found growing in a private garden in the historic Cumberland Valley—a sport from that pretty Moss rose, Princess Adelaide, itself a strong, vigorous grower, which is wonderfully developed in the offspring, the original sport the first season having attained a height of over fifteen feet and had 118 buds and flowers on it at one time. The past season, planted side by side with Crimson Rambler and other rampant growers, it fully equalled them in vigor of growth. In color it is identical to the parent, a bright silvery rose, very double; the buds nicely mossed and exquisitely fragrant. Altogether a most unique and desirable acquisition.

Several of the principal nurserymen and plant growers have offered this spring some of the prominent new roses of late European, as well as American introduction, and Ellwanger & Barry and the Dingee & Conard Company present very full lists of them.

Among English growers, Wm. Paul & Son, of Waltham Cross, offer the following new varieties, the descriptions being theirs:

EXQUISITE.—A Hybrid Tea. Flowers bright crimson, shaded with magenta, large, full and globular; buds large, long and clean; open flowers of even, regular shape; produced continually and in great profusion. A

magnificent rose for forcing and winter blooming, yielding large quantities of fine flowers as fragrant as La France. Growth vigorous and plant hardy.

TENNYSON.—A Hybrid Tea. A seedling from White Lady, producing large and very handsome pearly white flowers shaded with flesh color and pale pink. An excellent exhibition rose, with well-shaped, high-centered flowers of the first size, full to the center and quite distinct from all other varieties; the petals are of great substance, and the flowers have good lasting qualities. Growth robust, rather stronger than its parent, and every shoot is crowned with a flower bud.

QUEEN OLGA OF GREECE.—A Tea rose. Flowers deep, soft, rosy pink, center shaded with yellow, edges of petals slightly paler; large, not very full, but of good shape. An excellent free flowering Tea rose, producing large masses of beautiful flowers of a particularly bright and pleasing shade of pink, quite distinct from any other rose in cultivation.

(CONCLUDED ON PAGE 121)



NEW EVER-BLOOMING GERANIUM
AMERICA (See page 123)

VICKS ILLUSTRATED MONTHLY... MAGAZINE

ROCHESTER, N. Y., JUNE, 1899.

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CHARLES W. SEELYE, Editor.

ELIAS A. LONG, Associate.
Formerly conductor of *Popular Gardening*

Publishers are invited to use any articles contained in this number, if proper credit is given.

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FREE COPIES. One free copy additional will be allowed to each club of ten (in addition to all other premiums and offers) if spoken of when club is sent.

All contributions, subscriptions and orders for advertising should be sent to VICK PUBLISHING CO., ROCHESTER, N. Y.

A Rose Number.

The rose subject occupies a large amount of space in this number of the MAGAZINE, and we think our readers will be pleased to see it treated as fully as it is, and by different writers in various localities. Probably the information given on different varieties of roses may call out some comments and some diversity of opinions; this must naturally be the case with the great multiplicity of conditions under which roses are grown in this country. With all the difficulties rose growers have to contend with, the vicissitudes of climates and the injuries from pests, it is, notwithstanding, the most highly prized plant of our gardens throughout all our borders. In a communication from Mr. Benson, on another page, he calls attention to the use of a solution of concentrated lye as an insecticide, and it will be well for rose growers to give this material a trial, both because of its cheapness and because it is easily prepared. Rose insects are not so very difficult to keep in check if one is always prepared to meet them, and does not allow them to multiply unchecked until they become a scourge.

* *

New Jersey Horticultural Society.

The Proceedings of the New Jersey State Horticultural Society, for 1899, has been received and is found extremely interesting. The volume includes the reports of the Standing Committee, a number of excellent papers on horticultural subjects, and a full report of all the discussions which were held. The practical crop-growers of New Jersey are largely interested in raising vegetables for the great eastern markets, as well as in fruit growing. At present the subject of raising vegetables under glass is receiving special attention by some of these cultivators, and two able papers were presented on the subject, one by N. Butterback, and the other by A. Herrington, Superintendent of Park Florham Farm, Madison, N. J.

The Flower Committee's report was made by E. P. Beebee, of Elizabeth, N. J. In regard to roses, the writer has the following to say;

"Roses under glass have attained a perfection that seems almost complete. A recent letter of John N. May, on a 'Decade of Rose Culture,' says: 'For our exacting market today we have to come down to practically three varieties, for the bulk of the florist business of the country is confined to American Beauty, Bride and Bridesmaid.' The other bright stars of recent introduction are showing in the distance,—Mrs. Whitney, Mrs. Morgan, Belle Siebrecht, President Carnot, Jubilee, Kaiserin, Testout, Waban and Golden Gate. Kaiserin is grown as a summer bloomer, and Testout as a better rose than La France. The ascending stars are supposed to be Columbia, Miss Clara Barton, Liberty and Admiral Dewey; their names would indicate a bright future.

"In hardy roses the Crimson Rambler has held its own, but the Yellow Rambler is disappointing in its flowers and its offensive thorns are enough to condemn its cultivation. I have little confidence in the Hybrid Wichuraiana roses, and would be careful about recommending them; a further trial is needed to determine whether they are of value or a nuisance. Ruga rugosa would make a fair hedge and will bear shearing; the leaves are glossy, but the flowers are single and worthless for cutting."

* *

A Guide to the Wild Flowers.

The above is the title of a book of 350 pages, by Alice Lounsberry, recently issued by Frederick A. Stokes Company, New York City. It is illustrated by Mrs. Ellis Rowan, and has sixty-four beautiful full page

colored plates and 100 plates in black and white, together with numerous diagrams.

Several popular works on our native plants have been published within a few years, but this, the latest, appears, also, to be the best. It will undoubtedly serve its purpose, as indicated by its title, with those having little or no botanical information, and will therefore help in fostering a taste and interest in nature, and perhaps induce some to pursue more exact botanical information by the methods of science. The accounts of the plants are arranged according to the soil in which the plants grow,—a classification that is considered natural. Family, color, odor, range and time of bloom are all given in each case. Indexes of common names, scientific names, and colors make identification easy. No doubt beginners will find the book quite helpful. The plates printed in colors are well executed and the black and white engravings are correct representations. The price is \$2.50.

* *

New York Botanical Garden.

Bulletin No. 4, of Volume 1, has been received, containing the report of the Secretary and Director-in-Chief for 1898; and also, besides much other matter, a List of Plants in the grounds in 1898. There is also a report of the Committee on Patrons, including a list of Fellows and Annual Members, and a report of the Honorary Curator. The botanical contributions consist of the following named subjects:

Description of a New Stonecrop from Mexico, by N. L. Britton.

The Cespitose Willows of Arctic America and the Rocky Mountains, by P. A. Rydberg.

Undescribed Plants of the Southern U. S., by John K. Small.

New Grasses from the Southern U. S., by George V. Nash.

There are also six photo-gravure plates, being reproductions of photographs taken within the grounds.

* *

Horticultural Society of Missouri.

The Forty-first Annual Report of the State Horticultural Society of Missouri, being for the year 1898, appears as a well bound volume of over 400 pages. One need not closely scan these pages to be assured that Missouri horticulturists are very wide awake and greatly in earnest. The reports, essays, discussions and miscellaneous papers in this volume contain a great amount of horticultural information of very high value, the most of it of special interest to fruit growers. We all know that Missouri is developing as one of the greatest fruit States in the country, and evidently the workers in the fruit industry understand the value of association for mutual help and instruction.

* *

Greater America Exposition.

The Review of Reviews says that the Greater America Exposition, to be held at Omaha on July 1st to November 1st, has been projected with a view to illustrating the products and resources of the United States, and particularly of Cuba, Porto Rico, Hawaii, and the Philippine Islands, as well as the manners, habits, and industrial capacity of the people of those islands. About fifty of the people of each of these islands will be present. The grounds and buildings occupied by the Trans-Mississippi Exposition last year will be utilized, and are now undergoing certain landscape and other changes.

* *

American Monthly Review of Reviews.

The May number of this useful journal is one of remarkable interest, with its leading article, *The Progress of the World*, reviewing briefly and intelligently a great variety of subjects. Its record of current events, its original communications on topics of present interest, and its review of the leading articles of the month in other periodicals make it a most desirable companion for the busy man, enabling him with a minimum amount of reading to have a comprehensive grasp of the most important of the world's doings, and which otherwise he would not be able to obtain.

* *

Madame Caroline Testout.

Says *Gardening*: A Chicago cemetery superintendent, in discussing the subject, states that the variety is evidently as hardy as General Jacqueminot, mentioning a plant of it which has stood five years in an exposed situation with no care and no protection, blooming well each year and coming through the last severe winter in fully as good shape as the hardier Hybrid Perpetuals.

* *

ROSE, FRANCES E. WILLARD.—Good & Reese Co., Springfield, Ohio, have registered a new rose with the name Frances E. Willard. It is a seedling of Marie Guillot and Coquette de Lyon; growth vigorous, foliage large, height five to six feet; flowers pure white, three to four inches in diameter; bud short, very double and perfect.

THE NEW ROSES.

(Continued from page 119.)

A splendid bedding rose. Habit good and growth vigorous for a Tea rose.

CLIMBING BELLE SIEBRECHT.—A climbing hybrid Tea. A well-developed climbing form of the hybrid Tea rose Belle Siebrecht (Mrs. W. J. Grant) which appears to be constant, and will prove a most valuable addition to the red perpetual-flowering roses both for indoor and outdoor growth.

The same firm offers the two varieties mentioned below, which were shown and described in 1898:

AURORA.—A hybrid Tea. Center of flower rich, bright salmon-pink, shading paler towards the outside, large, full and imbricated. Buds, very rich in color and of beautiful shape. Flowers extra fragrant and produced continuously in large masses; growth vigorous, foliage fine and not subject to mildew. This variety received an Award of Merit at the Temple Flower Show, London, May, 1898.

M. ADA CARMODY.—A Tea rose. A new variety of the delicate class of Tea roses so beautiful in the flower and so difficult to describe. The ground color is ivory-white beautifully tinted and edged with various shades of pink, the center slightly tinged with yellow; somewhat resembling Cleopatra, although quite distinct from that variety; large and full; fine long buds; growth moderate; quite first-rate.

Paul & Sons, Cheshunt, Herts, offer a hybrid Tea by the name of **DAWN**. A seedling of Caroline Testout crossed with a Bourbon. Of extraordinary vigor and great freedom, this new garden rose promises to be the precursor of a new and exceptionally hardy race. It possesses all the enduring qualities of the Bourbons, together with the perpetual character and more delicate attributes of the hybrid Teas. The large semi-double flowers are produced in a huge cluster of the tenderest rosy-pink color shot with silvery rose. The buds are very pretty and well shaped. Possessing bold, bright green foliage, and making bushes six feet high, this new rose will grow anywhere, and should be in every garden.

They also offer under the name of **ROYAL SCARLET**, a single flowered H. P. rose of vigorous bushy habit, with reddish-brown foliage, and bunches of vivid scarlet flowers.

The new varieties of roses of French origin appear to be comparatively few this spring. Pierre Guillot, of Lyon, offers two varieties of Tea roses with the following descriptions:

MADAME RENÉE DE ST. MARCEAU.—Plant vigorous, very floriferous; beautiful carmine and orange-yellow bud; flower very large, full, finely formed, deep carmine China yellow tinted with orange, very fragrant. This superb variety recalls the coloring of our beautiful rose Souvenir de Catherine Guillot, but with a more brilliant lustre and the plant more floriferous.

MARGHERITA DI SIMONE.—Plant vigorous, very floriferous; bud very elegant, carmine orange yellow; flower large, full, finely formed; color varying from China rose to carmine shaded with deep yellow, reverse of petals orange yellow brightened with orange rose shading with carmine more or less dark, according to temperature and exposition; very fragrant; style of Luciole. Recommended for masses.

Ketten Frères, of Luxembourg, offer the following two Tea varieties of their own production:

PRINCESS MA.—Flower cream white, shaded with apricot yellow, fading to yellowish white at the base of the petals, bordered with lilac rose; very large, full, fragrant; bud long, opening in cup shape. Plant vigorous, very floriferous. A cross between the two Tea roses Adam and Socrate.

PRINCESSE N. TROUBETZKOI.—Flower brilliant orange yellow, bordered with scarlet, reverse of petals scarlet, lightly tinted with yellowish copper; large, full, cup shaped, fragrant. The opposite colors of the petals form a singular and decisive contrast. Plant of medium growth and good bloomer. A cross between Adam and Comtesse Riza du Parc.

They also offer the Tea variety **GOLDQUELLE**, a production of P. Lambert. Flower golden yellow, shaded with pure red, double, fragrant, and with a long bud. Very floriferous. This is from a cross of Kaiserin Augusta Victoria with Madame Eugène Verdier.

Another of P. Lambert's varieties offered by the same firm is **PAPA LAMBERT**, a hybrid Tea. Flower very large and full, color pure rose with a deeper center, and having the fragrance of the Hundred-leaf rose. Plant of medium growth, very floriferous. A rose of the finest merit. The result of a cross between White Lady, a Hybrid Tea, and Marie Baumann, a Hybrid Perpetual.

With all these new gains, and many others unmentioned, and all the untried and comparatively new varieties the amateur sees described in the catalogues, he may well ask with a sigh "Who shall be the Moses to lead us through the roses?"

WHEN THE YEAR IS YOUNG.

When the year is young, when the year is young,
All the gnarled and knotted orchard thick with wreaths of bloom is hung;
And amid its odorous arches bees intone the livelong day,
Where the oriole, transported, carols his divinest lay;
And within the heart's dim cloisters all the sweetest bells are rung
To the tenderest of old descants,—when the year is young.

When the year is young, care abjures her dreary guise,
Greeting beauty's swift renaissance, exultation in her eyes;
Hopes deferred feel sweet provisions; and the very winds are gay,
As they strew with cherry-petals all the grass at peep of day,
Grief itself seems but a vesture, like these mimic frost-flakes, flung
O'er the true, the bright, the joyous,—when the year is young.

When the year is young, like a dream are days forlorn,
While the dropping bird-notes dimple all the airy sea of morn;
And, resurgent with its sound-waves, swell again, in tender ruth,
The illimitable yearnings and the artless faith of youth;
To the last the springtime glamour o'er the dearth of life is flung,
And no joy seems past renewal,—when the year is young.

New Hampshire.

MRS. W. A. CUTTING.

* *

ROSE, SOUVENIR DE CATHERINE GUILLOT.

THE illustration on page 117 is given to call special attention to the beautiful Tea rose Souvenir de Catherine Guillot, which was sent out about three years since. This variety proves to be exceedingly beautiful and in all respects desirable. The color of the flower is unusually beautiful and very difficult to describe. The originator of it, Pierre Guillot, tries to describe it in some such language as the following:

Varying from carmine nasturtium red to carmine Indian yellow upon a foundation of orange yellow.

Our own description would be that it was a reddish pink salmon. But it is a rose to be seen, admired, and always remembered. The plant is of free growth and an abundant bloomer; the foliage is a deep bronzy-purple on the under side, an attractive feature in itself. It is an excellent companion for Souvenir de J. B. Guillot, by the same originator.

* *

ROSE NOTES.

THE past winter has been one long to be remembered for its unusual severity and the havoc it has worked among the tender and even usually hardy trees and plants. The loss among roses has been especially severe. It is now late enough to tell the extent of the injury, and I find very few which have come through unscathed. I had two fine Crimson Rambler roses,—one on the south side of the house, the other at the northeast corner; neither were protected, as I had never had them injured before, but 20° below zero proved too much for them. The plant on the south side of the house was exposed to the rays of the sun during the greater part of the day, but it is entirely killed to the ground. The wood on the other plant, which did not get the morning or mid-day sun, is alive, but many of the buds seem injured. From this we can see that the effect of the sun's rays does as much or more damage than the cold, and it offers a suggestion to those having tender plants to protect. This ill effect of the sun on frozen plants is still more plainly seen among evergreens; all not protected from the sun are much browned, and many twigs killed on the south side of the tree, while the north side of the tree, receiving the full force of the Arctic winds, is bright green and entirely uninjured.

The Yellow Rambler is killed to the ground also; it is, apparently, not as hardy as the Crimson Rambler.

All my Hybrid Perpetual roses are killed to the ground; also many of the moss roses, and even such roses as the Prairie Queen and Tennessee Belle, generally supposed to be ironclad in hardiness, are killed back to the ground. Almost the only rose uninjured is Madame Plantier.

Of course, all the Teas, Hybrid Teas, and all partly tender roses are killed down to the ground, and many of them killed outright. I have spent much time and money in trying to winter delicate roses; sometimes during one winter a certain method would be fairly successful and the same method the next year would result in the loss of almost all the plants. I have at last decided that the only sure way is to plant the roses in long beds of two or three rows, and late in the fall prune all back to within fifteen inches of the ground. Then drive stakes at intervals around the outside of the bed, those on one side to be about eighteen inches high, those on the other side about six inches lower; boards are now nailed to these stakes on sides and ends, as in making a cold-frame; leaves are packed among the plants and the entire bed covered with boards so as to turn water; during mild weather air should be given. This plan is a complete success, and the bed will look much neater than when covered with litter. The plants will come through in fine condition. All roses should be cut back to sound, live wood.

MARTIN BENSON.

Letter Box.

In this department we shall be pleased to answer any questions relating to Flowers, Vegetables and Plants, and to publish the experiences of our readers. EDITORS.

Grape Vines.

Kindly inform me what to do for my grape vines; they were two years old when set, three years ago, and have never had a blossom on. We trimmed them last fall. Is there any special work to do for them? MRS. H. J. W.

Mechanicsville, N. Y.

If the vines are in good soil and are pruned every winter they will bear. It is not strange that they have not borne the first two years after setting.

Seedling Cherries.—Soil for Grapes.

1—Will small cherry trees that grow up under larger cherry trees be good to set out and will they bear fruit of the same quality?

2—What kind of soil is most suitable for the grape?

Dublin, Ohio.

H. K.

1—No; they are of no use. The proper way is to procure of a nurseryman the trees of such kinds as are wanted.

2—The grape is not very particular about the character of the soil if it is rich, or kept well fertilized.

Lilium Harrisii.

The bulbs you sent me last fall all did well except the Easter lily, *Harrisii*; it died. Is it hardy for outdoor planting? MRS. B. H.

Sulphur Springs, Ark.

Yes, with proper treatment. If possible it should have a place that is shaded during the mid-day hours. It should also be mulched with grass, straw or other litter, to keep the soil cool in summer; and, also, have a protecting covering of litter in winter.

Fancy-leaved Caladium.

Kindly give the kind of soil and treatment the fancy-leaved caladium requires and the best manner of starting it. MRS. C. J. L.

Union City, Mich.

Caladium bulbs will be suited with a light, rich soil. Pot the bulb, placing it about an inch below the surface, water it and stand in a warm place. Cover the pot with a piece of glass to retain the moisture; when the sprout appears remove the glass. The plant should be slightly shaded from the sun at all times and be frequently sprayed.

A Cactus Fungus.

Can you give me a remedy for a disease that has attacked my cactus plants? Some plants are covered with a bright red rust which kills them. On others it comes in disfiguring spots, appearing on the old growth and especially on the new, though it does not kill the plant. Change of soil does no good. *Phyllocacti*, *Epiphyllums* and *Mammillaria* die, while *Echinocactus* and *Echinocereus* live, though badly disfigured. MRS. S.

We have no knowledge of this fungus, but publish the inquiry hoping it may be answered by some of our readers, if they are able to give such information.

Agapanthus.

I would like to know the treatment of the agapanthus,—what kind of soil and when it requires rest. M. A. H.

Howells, N. Y.

A good soil for the agapanthus may be composed of one part of old, well-decayed manure, one part leafmold and two parts of good fresh loam from field, pasture or garden. Give abundance of water during summer, the growing season, but the pot should have good drainage. In winter the plant can be kept in a light, dry cellar, and have only enough water to keep it from drying out.

Citrus Plants.

What is the best course to pursue with citrus fruits in summer? Should they be kept under glass, or the pot plunged out of doors in the ground? J. B.

Peoria, Ill.

Those who keep oranges, lemons and other citrus plants as house plants, usually give them a place on a verandah for the summer or stand them on the north side of the house where they will be in the shade during the hottest part of the day. In the latter place they can be plunged in sand or coal-ashes; these materials will be objectionable to earthworms which might enter the pots if plunged in soil.

Cherry Buds Blast.

We have a cherry tree that blooms out full every year,—they form and blast and we get no cherries. Can you tell me what to do to prevent it? C. P.

Stafford Springs, Conn.

This question could be answered with more assurance if we knew

more about the tree,—its general condition and its age, also about the soil where it stands. It is possible that by digging down and cutting off some of the roots of this tree it might be made to set its fruit. It looks as if it might be in a rich, strong soil and be growing so thriftily that it sloughs off its fruit. It is presumed that the blasting is not the result of frost.

Narcissus.—Fuchsias.

1—Last December I planted some narcissus bulbs, both in soil and in water I gave them a good place in the window; they have grown to the height of sixteen inches, but have never shown any sign of blossoming. What can be the matter?

2—I also have several fuchsias which have grown wonderfully well, and one has bloomed splendidly, but the leaves on all of them are inclined to turn under. They have had a south window and generally a warm location.

Springfield, S. D.

MRS. M. G. S.

1—It appears as if the bulbs may have been placed at once in a warm temperature without first allowing them to make roots in a cool place, and then they have had more heat than was needed all the time.

2—The fuchsias probably have also been kept too warm, and the foliage has not been sufficiently sprayed, and perhaps red spider may cause the leaves to curl,—such conditions are favorable to red spider.

Mealy Bug or Scale.

Will you tell me what to do with my coleus? A white cottony-looking substance forms on the stems, then spreads to the foliage; the leaves drop and the plants die. Then on some of the coleus a tiny brown insect appears, which I can only remove with a pin; wherever it shows itself the leaf withers and drops off. I have kept coleus for many years, but never had such pests until this winter.

Iberville, P. Q.

K. T. P.

The plants have been kept in too much heat and too dry an atmosphere, and are infested with some species of scale or mealy bug. There is nothing to do but to destroy the insects, going over the plants and killing every insect found. Take a little splinter and dip it into diluted alcohol or whiskey and touch the bug with it, killing it. After going over them all carefully and destroying the insects, spray the plants. After a day or two look them over again and continue until the pest is routed. Spray the plants at least once a day.

Cabbage Worms.—Manure for Squash.

1—Please give me a recipe for a good emulsion for destroying green worms on cabbage, turnips, etc.

2—Also inform me how to manage squashes, and what is the best manure for them. E. C. W.

Newfoundland.

1—The green worm on cabbage can be destroyed by dusting with pyrethrum, or by means of hot water at a temperature of 140° to 160°, delivered forcibly by means of a garden syringe.

2—A piece of ground left in good condition by manuring for a new crop is suitable for raising squashes, otherwise it must be well enriched for this crop. In the former case after plowing and fining, the ground should be manured in the hills. Lay out the ground with a marker, the rows being ten feet apart and the hills in the rows four feet apart. Where every hill is to stand the ground for at least two feet each way should have dug in a liberal quantity of old, decayed manure. This will give the vines a strong start while young and keep them permanently vigorous.

Pinks Classified.

I would like to see all kinds of pinks classified and described. I have read considerable, but have not yet got them classified. I will give you a mixed list of names, to which you can probably add others, and ask you to classify and describe them: Grass pinks, Japan pinks, China pinks, old-fashioned June pinks, Picotees, May pinks, *Dianthus* pinks, Carnations, Marguerite carnations, etc.; *Heddewigii*, Imperial pink, *laciniatus*, hardy pinks, Scotch pink, Cyclops pink, *semperflorens* and Indian pinks. To what class do *Her Majesty* and *Souvenir de Sale* belong? G. R.

Nickerson, Kans.

The best solution we can offer our inquirer is to refer to a competent botanical or horticultural authority, such as Gray's Field, Forest and Garden Botany, Revised Edition, and Nicholson's Dictionary of Gardening, and then after consulting these there will still be some questions to ask that will be found very difficult to be answered. The fact is the species of *Dianthus* have been crossed and recrossed until it is impossible to classify exactly many of the varieties. The distinctions between pinks, carnations and picotees are garden or horticultural distinctions and not botanical.

Propagating Blackberries and Roses.—Moles.—Swainsonia.

1—How are blackberries propagated and when is the proper time?

2—What is the method of rooting rose cuttings and when is the best time?

3—How can I get rid of moles; is there any way to exterminate them?

4—Would swainsonia be hardy as a bedding plant in California?

Suisun, Cal.

MRS. J. R. C.

1—Blackberries are propagated by suckers or by root cuttings. Pieces of roots planted in the spring will send up shoots and grow. The roots

can be cut about two inches in length and planted about an inch in depth in a bed of fine soil. In about a month they will sprout and grow.

2—Our method of starting roses is by means of cuttings of the green or growing wood with the leaves on. These properly prepared and placed in a bed of soil having bottom heat, will strike root. The surest way for the amateur rose grower is to layer some shoots from a bush and leave them in the ground until rooted.

3—Moles can be destroyed by means of mole-traps; and they are sometimes driven off by opening one of their runways and placing in it a small bit of cloth saturated with kerosene oil.

4—The writer not knowing how severe the weather is in winter at Suisun, cannot answer the question. A trial would determine the point.

* *

NEW EVER-BLOOMING GERANIUM, "AMERICA."

THIS new and wonderful production of a geranium is a seedling of the dwarf variety Mars, now so popular, which was introduced two years ago. Its color is brilliant and striking, being snow-white on the edge and changing through all the salmon shades into deepest rose in the center. The flowers are large and not self-colored; they are striped, mottled, blotched, and not two flowers on a plant in bloom seem to be alike. The effect is something wonderful, beautiful beyond description. The trusses are carried on strong stalks well above the plant and are extra large; a plant in a two-inch pot carries a cluster from four to six inches across, twice the size of the plant itself. The illustration shown on page 119 is from a photograph of a plant in a five-inch pot at about Christmas-time and shows what a wonderful window-bloomer this new variety is.

It withstands the outdoor sun as well as any sun-proof variety, and being of such remarkable dwarf growth, combined with its astonishing floriferousness, it is bound to become the ideal pot and bedding geranium of the people. Its introducer and raiser says, "An American seedling for the American people, and proud may the country be of this home production named America. It will be introduced next spring and it is worth while to make a note of it."

It is evident that the development of the geranium as a desirable bedding and pot plant is not yet completed. The dwarf varieties of the geranium are very much more desirable as bedding plants than those of tall growths; and the same is true of them as pot plants. In connection with low growth can the normal vigor of the plant be maintained? So far as seen in any of the dwarf varieties already produced there is no diminution in constitutional strength, and the capacity for flower production is increased. Such varieties should have good treatment and a liberal supply of nutriment to sustain the demand made upon their strength by the abundant bloom.

* *

FLOWERS AND FLOWERS.

THE born flower-lover sees something to admire in every least one of them. There are some so exquisitely beautiful that admiration almost amounts to love; others that one loves dearly for their own or old association's sake, and a few that are "grappled to the soul with hooks of steel," and for the same reasons that human friends are, because they are congenial, lovable and loyal.

If there are better climbers than *Ampelopsis Veitchii*, *Clematis paniculata*, and Hall's Japan Honeysuckle I have never seen them. All are as hardy as beautiful, and either one or the other is suited to every position and need. The honeysuckle is especially desirable for training over verandas, for aside from its rich foliage and delicate blossoms it makes a thick, branching growth that gives fine shade when properly pruned, and is a mass of delicate colored, fragrant blossoms from base to tip, while the foliage remains green until after the holidays.

Then, too, the color of the flowers of both this and the clematis are sure to harmonize with that of any house, a point too often overlooked in choosing vines with crimson or intense violet-purple blossoms.

The grace and beauty of *Ampelopsis Veitchii* (Boston Ivy) is well known and appreciated, but old prejudices die hard and the mistaken notion that its dense growth makes the walls of a house damp prevents its general use. Eight years ago, when we planted it on two sides of a house covered with stained shingles, there were dire forebodings on every side, but time has proven that instead of shutting in dampness and causing the shingles to rot, the overlapping leaves prevent any but the most driving rains from reaching the walls, and have been a great protection.

The rose is still emphatically queen among flowers, and although it sometimes seems as if the enemies to its culture increased with the varieties. One who has "Beautiful roses in the heart" will succeed in growing them. From the dear little Persian Yellow of our grand-

mother's days to the exquisite new Marchioness of Londonderry, there is no end of hardy roses that are beautiful in form, color and fragrance. A rose border may be highly effective; but there is no question about a single well grown plant (or rather two or three roots combined) in just the right place here and there, or a bed of well selected ones, on a lawn. If I could grow but two kinds of hardy roses they would be Mrs. John Laing and Marshall P. Wilder. Both are good in every way, and when planted in a cluster of two or three roots together are highly effective after the first year. On a plat of somewhat similar outline, a kite-shaped bed of roses, with the colors gradually deepening from the point, is very decorative. With a well made bed of such favorites as the two named above, La France, American Beauty, Earl of Dufferin, Annie de Diesbach, Margaret Dickson, Duchess of Albany, Merveille de Lyon,—and a corner where one can experiment with the newer sorts,—one gets no end of pleasure and profit the entire season through.

Of the newer roses be sure to try one or more of the different colored Ramblers. They are charming.

For a bed of Tea roses choose,—well, really I would not put my affections on such a bed unless I fully decided when buying that it was for a season. Stored in a cellar very few of the plants will live; kept up stairs they droop and just exist,—and this tortures the flower-lover's heart almost as keenly as though they were her human loves.

Good roses were never so low in price as now, but be sure to get those which are good size and strong. The plants so attractively advertised at five cents apiece are dear at any price.

Be sure to try the new double nasturtium Golden Wonder, and the perennial Rudbeckia Golden Glow; the latter blossoms nearly all summer and is a decided addition to the list of cut flowers.

The new Fuchsia Mary is sure to delight all lovers of that flower. The rich green foliage makes a perfect background for the long crimson-scarlet blossoms that are borne in profusion. Once well rooted the plant is a strong grower.

The past winter has proven conclusively that the highly decorative Asparagus Sprengeri and the Boston Fern will bear the temperature of our living-rooms well,—and surely no other plants are so effective for hanging on a piazza.

Tuberous begonias are deserving of more recognition than they receive, especially for growing on partially shaded piazzas. A box of these with a border of German ivy drooping over and completely concealing the receptacle, was by far the most effective piazza ornament seen last season. The bulbs keep over winter easily.

KATHERINE B. JOHNSON.

* *

THE WINDOW CULTURE OF ORCHIDS.

ORCHID culture is simple, but to understand the matter one must go into the principles of the culture, and know the difference in the nature of the cultivated orchids from most plants cultivated in glass houses or windows. There is no reason why one who grows window plants cannot grow orchids wherever other flowering plants are grown. I know one lady who grows cattleyas splendidly in an ordinary window. Orchids are the latest result of creative evolution in nature's floral kingdom,—there are no fossil orchids,—and are the most interesting of all flowering forms for the amateur to grow. Many of the most beautiful of all are to be bought at moderate prices, and an added interest in life would come to multitudes of people if they would take up the study and growing of the orchid.

To make a beginning one should secure a good manual of culture. By far the best practical manual on the subject is an English work by Barberry, orchid grower to the Hon. Joseph Chamberlain, M.P., entitled the "Amateur Orchid Cultivator's Guide." An American edition of this work is soon to be issued by the Putnams, of New York. In a general way the points to be considered in the window culture of orchids are: First, that during the cooler season the plants are more or less inactive and need little water. Second, that during the warm season, when growth is more rapid, the roots should be more or less continually surrounded by moist air. Third, that provision should be made to protect the roots from becoming dry during the period of growth, yet allow a much more free contact with air than is usual in the case of most other plants; this is accomplished by the nature of the receptacle in which the plants are grown,—by using a fibrous peat and moss for potting soil and by frequent waterings and dippings. Unless fresh rainwater, or other water containing the necessary fertilizing elements, is used to feed orchids there will be a gradual degeneration in the constitution of the plants; but this is a minor matter in the culture of a few plants which can be replaced at small expense. Cattleyas will usually survive a starving treatment for ten or more years. Orchids are less particular about the architectural nature of their abode than any other plants. Enclosed windows or porch conservatories answer well.

New Jersey.

J. W. W. KITCHEN, M.D.

THE CROWN OF ROSES.

Back in the dim, heroic days,
When nymphs lived in the mountains,
When on Olympus dwelt the gods,
And naiads swam the fountains;

Those distant days, now seen by us
Through mists of years uncertain,
Like foreign vessels, glim'ring strange
Behind the fog's gray curtain,—

In those dim times, a fair-haired god,
With purple clusters laden,
The vine-god, Bacchus, wooed and won
A beauteous, mortal maiden.

And 'mid the joyous nuptial strains
Of naiads shrilly singing,
Fair Bacchus brought a glorious wreath
With purple roses clinging;

And when on Ariadne's head
He placed the royal favor,
Love deified her there, and thus
Immortal being gave her;

The years her beauty could not mar,
Nor pain nor trouble bind her;
Immortal in her Bacchus' clasp
Not Death himself could find her.

So well the ancient poets knew
The power of love supernal,
To crown each shadowed, earthly life
With bliss intense, eternal.

For love alone can make divine,
Both time and death defying;
The finite with the infinite,
Its golden links allying.

And in these more prosaic days,
With gods and heroes banished,
Still Love can crown and deify
As in the days long vanished.

And still the lover, modern-wise,
While he his love discloses,
Can find no fitter gift to bring
Than wreaths of passioned roses.

And she, upon whose maiden breast
Love's gift of bloom reposes,
Finds love unending, joy divine,
In every breath of roses.

MRS. W. A. CUTTING.

* *

IN THE ROSE GARDEN.

If we allowed our roses to grow at will, they would soon be carrying a quantity of wood that was of scarcely any value, and was drawing a considerable part of the plant's energy that would be much better utilised by younger and more healthy growth. One cannot fail to note that all roses and briars depend to a great extent upon suckers, or, at least, strong growths from near their base, for lengthened existence, the upper and older growths gradually failing. Even if this is not the case, in some few instances we find the terminal eyes breaking most freely, with the inevitable consequence of leggy and bare growth at the lower parts. Therefore, we thin out this older growth for two reasons—to throw more vigor into the younger wood and to make more room for the same. A second object in pruning is to secure flowers of better quality, and to do this we must direct the plant's energies to the most favorable eyes. As already pointed out, the terminal eyes break most strongly, and by judicious pruning we secure that these shall be the most suitable for our purpose. Prune weak growers hard, and leave almost the whole length of young rods upon the most vigorous growers. One should prune more or less closely according to the habit of growth of each variety. Among both Teas and Noisettes we have extra strong growers that simply make more flowerless growth time after time if pruning is done. Mme. Bérard and Réve d'Or are two examples. I would only cut the tips of their growths, letting the plant severely alone otherwise with the exception of cutting away any dead wood. Both

are beautiful if so treated, but if we check them, the result is an enormous amount of wood and scarcely any blossoms. Take Gloire Lyonnaise and Gabriel Luizet from the Hybrid Teas and Hybrid Perpetuals respectively, and we find two more examples that need special pruning. Neither can be called continuous bloomers. Both produce a grand crop from the long upright rods of the previous season if these are merely pegged down year after year, cutting them away as soon as they have produced their crop of flowers, which they do very freely. To leave these growths on the plant after flowering merely means a quantity of laterals that are almost valueless. This, too, is the best system to follow with the majority of our climbers, and is generally practiced with Maréchal Niel and a few more under glass. William Allen Richardson is a notable exception, only needing a little thinning in summer, producing a succession of its uniquely colored flowers from early until late. It is not pruning as the word is understood by many amateurs, but judicious thinning that is most required among our very vigorous growers. Duke of Edinburgh and Prince Camille de Rohan are examples from the Hybrid Perpetuals that grow very strongly, and yet need their growths cut back rather more than half way to get the best results and still keep the plants in fairly good shape. Medium growers, from whatever class, may have their lateral growths cut away rather closely, be thinned out in the centre of the plant and the remaining shoots cut back to from six inches to fifteen inches, according to the strength of each shoot, care being taken to cut to a healthy eye and one with a tendency to outward growth. Here are a few examples of varieties from various classes: Alfred Colomb, Kaiserin Augusta Victoria, Mme. Lambert, Caroline Kuster, and Lorna Doone.

When we come to moderate growers, such as Comtesse de Nadaillac and Duchess of Bedford, I would cut back to within two, or at most three, eyes from where the growth of the previous year originated.—*Ridgewood, in The Garden.*

* *

ANOTHER USE FOR POTASH.

I have been using potash or concentrated lye in a new way, lately, — at least new to me. I have been using it as an insecticide and have found it most effective especially for house plants. I use the pulverized sort put up in small tin boxes. I dissolve two tablespoonsful of this in three gallons of water and spray the plants thoroughly with the solution. I have never known it to injure even the most delicate plants, and for the greater number it could be used much stronger.

For the mealy bug, aphid, red spider, and almost all insects infesting plants it is sure death. The use of the potash also keeps the leaves bright and clean, and is useful to remove the black scum which sometimes gathers on the leaves of greenhouse plants. It also acts as a fertilizer, making the plants more vigorous and floriferous.

As a spray or wash for fruit trees it is of great value. Trees thoroughly sprayed with a strong solution of potash, applied before the leaves start, will not be troubled with the San José scale.

I would also advise gardeners to try it for the cabbage worm, as it is non-poisonous, and unobjectionable, and a sure remedy.

MARTIN BENSON.

* *

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FLOWERS.

He who despises flowers has need to learn
How nature loves them, every dainty hue,
From palest violet to deepening blue,
The gold that brightens and the reds that burn,
All shades and colors to her heart are dear.
And so, ere fruit—on plant or tree we find,
She sends the blossoms to foretell its kind
And speak the promises of the early year.

—LALIA MITCHELL.

* *

BEAN CULTURE.

The small white varieties of beans are the most easily raised and most prolific, ripening better and harder. They bear distant shipping or long voyages better than the narrow or roundish sorts, or the long or kidney beans, but the latter sell much higher in market. The navy beans average twenty bushels per acre; all kinds vary in production according to the season. The narrow are considered by some the most uncertain, but in other respects the most desirable.

In growing beans, it is more an object to obtain seed than vines; to succeed requires judgment as well as a favorable season. Too rich land inclines the vines to run too much to blossom after the first pods have ripened. Growers have succeeded best upon sod ploughed down shallow; the second year yielding the best, with a light cast of manure sowed broadcast. They should not be worked while the dew is on, lest they become rusty. The vines have a longer root than the potato.—*Up-to-Date Farming.*

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THE OTAHEITE ORANGE.

It has always been my habit, when I receive a plant that is new to me, to carefully make a note of the time when received, the way it was planted, and the time it bloomed, and other points as to its conduct. Seeing several have asked in regard to the Otaheite orange, I will give my actual experience. Last year, April 26th, I received a small orange plant by express. It had two shoots about ten inches high, two half-grown oranges, and had been taken from a two-inch pot. The only pot handy at the time was a six-inch one, so this was used. Two inches of small stones formed the drainage, and the soil was rich, fibrous black soil from under a plum tree. When first planted, it was well-watered and set in the shade for three or four days, then gradually brought into the sun until it found a permanent home in the east window. Like the orange plant mentioned by "R. W.," on page 57 of the February MAGAZINE, it did not grow, but I knew that it was busy under ground, filling the pot with roots. It was watered only when dry, and then watered well, and also sprinkled. June 20th I noticed signs of sprouting out, and during the next month seventeen shoots came out that were from one to three inches long. Then it rested again, and I came to the conclusion that, perhaps, the two little oranges should be removed, but the children would not hear of it. Finally, Thanksgiving Day, they cut them off and ate them. They were very sweet, like any over-ripe sweet orange, and had no seeds. The first week in January the little tree began to send out shoots in every direction, and now (Febru-

ary 11th) it is covered with tiny new leaves and little pink and white buds. Two buds have bloomed out, and set little oranges, and I expect from the looks of the buds that the tree will be loaded. I shall not allow more than a dozen of the oranges to remain upon the tree, for I want it to continue growing.

It does not like a hot, dry place, and must be frequently sprinkled with warm water, for the leaves in winter become covered with a sticky substance like honey, and this attracts the dust. The plant is a prey to two sorts of insect pests, one the brown scale and the other a cottony white scale. For these, I keep a wooden toothpick in the pot, and every day I carefully look the plant over and remove any and all occupants with the toothpick. It is no trouble, and I find it the surest way to get rid of them. If I could but have one plant, it would be an Otaheite orange. A guava plant was purchased at the same time as the orange, and it has grown much faster, but as yet shows no signs of blossoms. It has a leaf much like the former, but a lighter green, and so far it has never had an insect upon it. I consider this alone is a point in its favor.

Montana.

MAY LONARD.

* *

SOLDIERS IN THE GARDEN.

The happy and successful woman in her garden makes companions of her pets. They bring much more to her than roots, stems, leaves, and even flowers. I have one bed that I call the children in the garden. Around the edge, the pink oxalis seem like the little ones, playing in the sunshine, and fit companions to the Phlox Drummondii, one of the most delightful little plants we can have. But there is a grand display in the center of the grass plat, and these are cannas. They are my soldiers, drawn up for parade. Without the flowers, the large leaves make them stately looking plants, but the flowers hold themselves well up above the foliage, and they are, indeed, a gorgeous sight. But, "How would you arrange your soldiers to show them off to the best advantage?" In the center of a round bed I would place a caladium with its enormous leaves. He is the general. Then comes Admiral Courbet, in yellow uniform, with Burbank and Brilliant, bright scarlet. Around these, the shorter ones, Chevalier Besson, François Crozy, J. C. Vaughan and Victor Hugo. Cannas are most accommodating plants, and only insist on two things, rich earth to grow in, and to be kept well watered. I dig the bed quite deep, and put in a pail or two of manure, then soft meadow soil on top, so that the roots will have no difficulty in spreading themselves and finding it. These grand plants are great eaters and will reward you well if you provide liberally for their sustenance. As for water, they need a liberal drink every day, through the hot summer. I find a large tub under the kitchen window, with a short rubber pipe leading from the faucet over the kitchen sink into it, and the water put in a sprinkler, and distributed where needed, saves a great many steps. Instead of having a bed of scarlet geraniums in the grass plat, try this spring some cannas. They are a delightful change from geraniums, and they can be well looked upon as soldiers in the garden.

ANNIE LYMAN.

* *

One Way.

If each of our readers will renew his subscription, and influence one friend to subscribe for the MAGAZINE, how our subscription list will increase.



Remove the sprout.

Plant out the cactuses.

Sow for successive crops.

Cherries are to be pitted.

Sweet potatoes may now be set.

Balsams adapt themselves to pot culture.

Half the secret of rose culture is good soil.

The strawberry easily is fruit king in June.

Work the home market for garden produce.

A good sign—railroad flower gardening is on the increase.

Seedlings might as well stand in weeds as in an over-crowded state.

Strawberries mark the date when rhubarb should have a rest from close cutting.

The various sword ferns of the Nephrolepis order are gaining in popularity for house culture. They deserve it.

As soon as the grape buds burst forth fully, it is best to remove at least every shoot that does not show more than one or two clusters.

There is, no excuse for being without the information needed to properly apply insecticides. The Government Experiment Stations will gladly supply full details.

The house plant collection that is without Farfugium grande, sometimes known as leopard plant, lacks completeness. No plant is easier grown to always look handsome.

Redbreast helps himself to cherries, does he? Well, before you condemn too roundly, remember that he takes worms, also, in prodigious numbers,—the maws of that nestful of young charges are never satisfied. It has been carefully calculated that to keep a robin up to its normal weight, an amount of animal food is required daily equal to an earth-worm fourteen feet in length. Multiply that by five, for the young in the nest, and no wonder that he finds it necessary to be at work in the morning long before you are.

Currant Worms. There is no need to have currant bushes despoiled and the fruit injured by worms. Hellebore is the best known remedy and perfectly effectual; it is harmless if properly applied. Use as follows: Look at the leaves near the ground and if numerous small holes are present the worms have begun work; now sprinkle powdered hellebore over these leaves, renewing it if washed off by rain, and the desired end is accomplished. If the hellebore remains upon the leaves during the time the young worms are hatching, all will be killed and no further trouble will ensue. If some escape there will be a second brood in June; these should be watched for and destroyed the same as before.

Do the boys—and for that matter adults, too,—dread weeding? If so, it is because the work has not been entered upon in a right manner. First, a sharp hoe; it is easily put in shape with a good file, or the grindstone will answer, but not so well. Next, get it in motion while you have infant weeds, not giants, to deal

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with,—a stroke in time easily saves nine. With a keen-edged tool and the plants minute, there is, to a right spirited person, positive delight in weed destroying. How beautiful the clean rows do look, as compared to the others. What consciousness of genuine good work as we observe the enemies of the crop laid low, wilting in the sun, and the cultivated plants given the chance for development due them. The poetry of gardening does not all lie in plucking the blossoms and the fruit, but as well in fighting the battles of your plants.

Plant-box extension. The extent to which the cultivation of plants in boxes on window sills, veranda rails, etc., is engaged in, especially in towns, is something remarkable. Instances are not rare where the results obtained in cultivating plants thus about buildings alone, may be compared in extent with the cultivation of the same elsewhere in the garden. The writers recalls a marked case of this kind where a two-floor store and dwelling is made to carry a load of floral beauty almost from top to bottom, and that without having an inch of the earth's surface proper for gardening. Taking this case of success achieved, as a sample, the writer has observed that one condition favorable to the best results is that the boxes in which the gardening is done are of ample size, as compared with those usually seen; it is a condition the importance of which is too much overlooked. One of the greatest faults of the average box culture of plants, is that by the time midsummer is reached the specimens are so large and crowded, both at top and root, that their beauty is greatly marred. It is to advocate a system of expansion of the plant-box that these notes, with illustrations, have been prepared. The writer has long since practiced this in his own case. Figure 1 shows a style of expanded veranda-rail box at *b* as compared with the more ordinary narrow ones shown at *aa*. Where the latter are six inches wide the expanded one is double this width and is

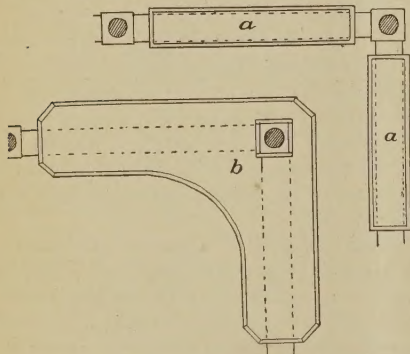


FIG. 1—*aa* ORDINARY VERANDA-RAIL PLANT BOXES.
b LARGER BOX TO OCCUPY SAME PLACE.

swollen out at the veranda angle to even wider. It is assumed that the expanded box takes the place of the two narrow ones, *aa*, which occupy the rail in two directions from the corner. This increased width gives great advantage in room for soil. Both the plants and their roots are less crowded, with the result that their vigor is retained to the end of the season, and with much less care in watering. A free air space is provided around the corner post to prevent decay. The flooring of the box runs diagonally crosswise, the start being at a line that extends across the corner post from the inner to the further outer corner and beyond. In the case here illustrated the inner side of the box toward the corner is not rounded, as the artist has

shown, but is straight with obtuse angles, being thus easier to connect. In figure 2, *d* shows an expanded window-sill box, the ordinary style of box also being shown at *c*. Here again the extension gives great advantage in increased quarters for the plants. In a window-box thus extended it is necessary to provide additional

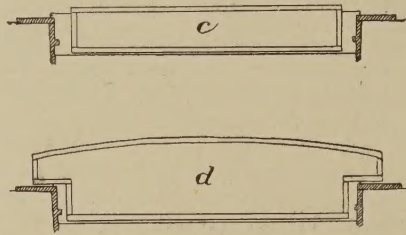


FIG. 2—*c* ORDINARY WINDOW-SILL BOX.
d ENLARGED BOX TO TAKE THE PLACE OF *c*.

support for the outer part; this is easily done by attaching wires at two or three different points along the edge of the box and carrying them up and fastening them to some strong hooks that are screwed into the window-frame near the top. These wires serve the additional purpose of supports to twining plants in the boxes, thus adding increased charms to the display. The additional width is so easily provided and is so valuable that amateurs are urged to adopt the plan. There is no question about the advantages of such expansion.

* *

HORTICULTURE IN JAPAN.

The above was the title of an illustrated address by John K. M. L. Farquhar, of Boston, delivered before the Massachusetts Horticultural Society, March 18, 1899. The whole address was one of much interest, but our space allows only a few brief extracts:

LILIES—Proceeding north I stopped at Gotemba, where I saw growing wild many varieties of lilies, particularly *Lilium longiflorum* and *Lilium auratum*. Exporters rely largely on collected bulbs of *Lilium auratum* for their stock. The other sorts are chiefly cultivated. I was surprised to find that the bulbs of wild lilies were usually from a foot to two feet below the surface of the ground. They succeed admirably in the decomposed lava which forms the soil of Gotemba, as they have abundance of rain and ample drainage. Here, and also at Ofune, there are extensive fields of *Lilium longiflorum*, *speciosum* sorts and *auratum*. The fields are arranged so that they may be flooded or dried at will. The increase in lily growing in Japan has been very great of late years, owing to failure by disease in both Holland and Bermuda. About two and a half millions of *Lilium longiflorum* bulbs were sent from Japan to the United States in 1898.

CYCAS—Some nurseries are devoted to *Cycas revoluta*, which are grown as large specimens, or dwarfed by twisting and tying down the leaves. Many of the plants have small crowns grafted into the lower part of their stems, giving them curious forms; some of them are worth 200 yen.

MORNING GLORIES—The morning glory nurseries are particularly interesting. The plants are grown

in pots, wall pots or hanging baskets; and the variety of colors and forms is endless. Flowers five inches across are frequent; there are also many double flowered sorts. The finer sorts are grown only as pot plants; they are not sown in the open ground, as with us.

JAPANESE MAPLES—Some nurseries are devoted to ornamental-leaved maples. In one I found over eighty distinct sorts.

DWARFED TREES—Many travelers are most taken with the tree nurseries, where such conifers as *Pinus parvifolia*, *Pinus Thunbergi*, *Thuja obtusa* *nana* and *Retinospora filifera* are dwarfed and stunted in small pots. Many of the trees seen are said to be three or four hundred years old. Ivies, several varieties of *Podocarpus* and maples are also employed for dwarf cultivation. These trees, I think, will never become popular here; the labor of caring for them is too great; and a few weeks of neglect will ruin the work of generations.

* *

POTATO CULTURE.

The Cornell University Agricultural Experiment Station, at Ithaca, N. Y., issued in December last its "Third Report on Potato Culture," by I. P. Roberts and L. A. Clinton. Here are the "Conclusions, Based Upon Experiments in Potato Culture During Four Years:—"

1.—The average yield of potatoes throughout the State is not more than one-half what it should be, and what it would be were better methods practiced.

2.—All soils of ordinary fertility contain sufficient potential plant food to produce abundant crops. By tillage, and drainage if necessary, a part of this potential plant food can be made available for the use of plants.

3.—Early planting of potatoes and frequent tillage to conserve moisture will ordinarily give best results.

4.—Early planting necessitates vigorous spraying with Bordeaux mixture and Paris green to protect the foliage from blight and beetles.

5.—Success with potatoes depends largely upon the preparation given the soil before the potatoes are planted. Plowing should be deep, and at the time of planting, soil should be mellow and loose.

6.—On soils which are likely to be affected seriously by drouths, it is especially important that the potatoes should be planted early and deep, and the tillage should be frequent and level.

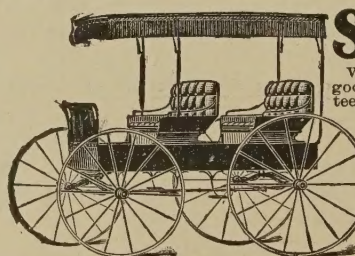
7.—On soils which are not well drained, either naturally or artificially, and on clay or clay loam soils, potatoes may be planted somewhat shallow and slight hilling may be practiced with benefit.

8.—Harrowing the land after the potatoes were planted and before the plants appeared produced marked beneficial results.

9.—From six to seven cultivations have given best yields.

* *

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BEAUTIFYING THE FARM.

It seems strange so many farm houses should possess untidy and unattractive surroundings, when by a small outlay of time and trouble the very reverse might be the case. How often the backyard is little better than a heap of filth and rubbish, and both pigs and chickens run at large as they please. How easily the ground might be leveled all around the house and thickly sowed to grass! Almost before one realized it, a beautiful lawn would be there, a delight to the eye and feet alike. A few convenient walks and paths should be laid out. If the lawn is of generous size, as it should be, a few fine shade trees and some choice shrubbery should be planted. One or two trees close enough to the house to have a hammock or chair in the shade conveniently near for the tired housewife, is a rest and delight one can appreciate only in its daily use.

Narrow flower borders outlining the paths, or oval beds should be filled with hardy perennials, and as many annuals sown each season as one can find time and space for. Vines should be generously planted about the house; clematis is particularly fine for such purpose trained on a suitable trellis, and is so hardy it needs absolutely no care. The ampelopsis will attach itself to either wood, brick or stone by the disc-like rootlets thrown out along its stem, and will soon cover a bare wall with a beautiful mantle of green.

In the back yard, so often a positive offence to the patient worker in the kitchen, every effort should be made to keep down weeds and to keep the grass as green and smooth as possible. In full view of the kitchen window plant a large bed of nasturtiums; do not enrich the soil, as it can scarcely be too poor or shallow for this beautiful annual to live in. Keep down the weeds and it possible do not allow seeds to form, and from June to October the bed will be a solid sheet of gorgeously beautiful flowers in rich and velvety tints of scarlet, gold and ruby. In new ground nasturtiums will do quite as well as anywhere else.

Plant some hardy climbing roses at the door, and each year try to improve on the past one in the way of permanently beautifying the surroundings. It is amazing how much can be accomplished in a short time. The plainest farm-house may be made beautiful by a judicious planting of vines, trees, and shrubbery, if first be laid the sure foundation of a beautiful green lawn.

MARY FOSTER SNIDER.

++

THE CHINESE PRIMROSE.

Taking everything into consideration, one of the best winter-blooming plants for the amateur is the Chinese primrose, *Primula Sinensis*. An exhaustive eulogy of this plant would perhaps be tiresome,—it is enough to say that it is well-nigh faultless as an exquisite winter-bloomer. One distinguishing feature of the *Primula*, and its great recommendation for parlor culture, is its immunity from insect pests.

The *Primula*'s demands as to the scarce and precious commodity of sunlight in the winter season, are of the most modest description. It will bloom cheerfully and persistently with scarcely a ray of direct sunshine, provided it have a good light. An easterly window suits it admirably.

The *Primula* is satisfied with a low temperature, and indeed does much better out of the range of direct sunlight and of much artificial heat. Add to these qualifications the fact that the plants can be raised from seed with moderate care and trouble, and it is evident that it should be called "The Amateur's Own." *Primulas* are not at all difficult to grow from seed, and anyone can do it who has patience, common sense and capacity for details, without which qualifications no one should attempt to grow plants of any description. The seeds usually cost about 25 cents per packet for single varieties and 50 cents for the double. A dozen plants from each packet is a low estimate. If mixed seed be purchased, one stands a chance of having as many different varieties as he has plants. The seed may be started at any time from February to June, according to the desired time of flowering. No exact calculation can be made of the length of time from seed to bloom, on account of differences in treatment, but ten months is perhaps a fair estimate. The seeds, being very fine, should be planted in sifted soil, pressed smooth, with a slight covering of earth sifted over them and carefully pressed down. A mixture of sandy loam and leaf-mold, with the addition of a little thoroughly rotted manure, suits the *Primula*. The drainage must be

perfect; this condition is easily obtainable by using shallow boxes with drainage holes in the bottom, for seed-pans. Cover the boxes with panes of glass slightly tilted to secure ventilation, and keep in a uniformly warm and shaded place. At planting, and afterwards often enough to keep the soil moist,—not wet,—water by setting the seed-boxes in water until spots of moisture appear upon the surface of the soil. The young plants will appear in about three weeks, very small and fragile looking. Guard against damping off by giving air and light, not direct sunshine, and prick off as soon as possible into tiny pots containing soil like that in the seed-pans. Morning sunshine can now be given, and, as the young plants grow, they should be shifted into larger pots, with the same kind of soil and conditions.

Pot always with the earth lower at the side of the pot, as the *Primula* is impatient of water about its crown. In watering, especial care must be taken not to wet the buds or they will almost certainly blast. The velvety foliage should not be sprayed, and therefore the plant should never be exposed to dust. Cover carefully, or removed from the room when sweeping and dusting. Perfect drainage in the pots is all-important, and may be secured by the use of a layer of excelsior in the bottom.

During the summer the pots may be plunged among the herbaceous perennials, or anywhere out of the hot sunshine. But this treatment is not recommended, as the plants are likely to suffer in such situations from lack of care,—and the better care *Primulas* receive during the summer the stronger the plants and the finer the bloom in winter.

MRS. W. A. C.

++

A SUMMER IN THE COUNTRY.

I had never been in possession of a country home until last summer, and although our tenancy lasted only for one season, I have never been so close in touch with nature. To one who has always been an ardent admirer of Her Verdant Majesty, the walks in fields and woods were delightful. The ever-changing succession of wild flowers, until the golden rod closed the cycle in the fall, was of never failing interest,—in fact, the very air, laden with ozone, was invigorating. Even the insect life was diverting; it was fun to watch the sphinx moths sip sweetness from the starry blossoms of *Nicotiana affinis*, than which there is no plant easier to grow from seed; it is very satisfactory, but does not exhale its fragrance until the evening hours.

It is a blessed privilege, too, to sit on a vine covered veranda on a sunny day and note the antics of the humming-birds that hover about the bignonia or trumpet vine, with fluttering wings, thrusting their long bills deep into the red flower. By the way, the trumpet vine trained as a shrub is an ornament to any garden and blooms a long time.

"Landheim," as my little country place was called, was situated in Oakland County, Michigan, in a village that could boast of little else but unlimited quantities of sand. In this sand I endeavored to grow sweet peas; of course the attempt was a failure, although the soil was enriched with a fertilizer.

But my *Cactus dahlia*s did not mind the sand, and thrived notwithstanding, producing large blooms of brilliant colors. They were given plenty of manure and lots of water and consequently did well. The *rudbeckia*, too, was at home in the sand and sent up half a dozen strong stalks; it was beautiful while in bloom and nodded a multitude of golden blossoms to a caressing wind.

On either side of the entrance there were giant lilac bushes, and when they were in bloom they were the sight of the town. I wonder if the Japanese lilac cannot be grown in Michigan; being hardy in Massachusetts I should think it could. I saw a grand specimen of this noble plant in Los Angeles, Cal., several years ago; it was over fifteen feet in height and was covered with bloom in the month of July.

The flowering almond is another shrub that may be safely commended to any lover of Flora's children. Its period of bloom is brief, but while it lasts it is magnificent.

It would not do to overlook the fruit trees in this enumeration. Man has reason to be doubly grateful for them,—in spring they gratify the eye and in the fall the palate. In bloom they form huge bouquets of white or pink blossoms that give pleasure to every true floriculturist. One can easily imagine that paradise contained such trees as these.

On the north side of our dwelling, which was a typical country house with long French windows leading to the veranda, there was a capital spot for pansies, semi-secluded and shady. The ground was rich and they thrived wonderfully. About 150 of them were planted there and every evening some of the new born lifted their little faces for a parting kiss of the dying

sun. Of course, we had planted them in seed-boxes, before Jack Frost took his departure and had them ready for planting out when spring was come.

Salvia splendens was another flower that was raised from seed for transplanting. It was utilized ultimately for the outer circle of two garden beds, one of which was given up to the large carter oil plant, known as *Ricinus Zanzibariensis*, and the other to some of the grand new cannas. When in bloom, *salvia* invariably attracts attention by its showy scarlet flowers. The whole village came to admire it.

It would lead too far to devote more space to details, so I must pass over *Phlox Drummondii*, *petunias*, Chinese pinks, and other flowers with a mere mention. I desire to note, however, that my tuberoses failed to bloom and that the Japanese morning-glories were far from being a success. In fact, they were in no wise distinguished from ordinary morning-glories, either in size, color or manner of bloom. It is inevitable, however, that there must be occasional failures, especially when one plants a variety of flowers, as conditions are not always suited to them, but the wonder is that success is so general.

DR. H. E.

**

AGATHÆA CÆLESTIS.

Blue flowers are scarce in winter, and any plant that will furnish them freely is worth looking after. All that one has to do in the case of this *Agathæa* is to propagate early enough in the year to ensure a long season of growth. Pinching back the stronger growth in order to induce a dwarf, compact habit should be practised up to the middle of July, at the same time picking off all buds that form until the first week in September. In this way nice specimens, a foot in height and well established in six-inch pots, will be formed by the close of the growing season. In a temperature of about 50° they will yield a succession of flowers all through the dull winter months. This *Agathæa* makes a good room plant, as owing to its hard foliage and wiry habit, it resists well the impure atmosphere of an ordinary constantly heated apartment. The flowers are also very suitable for bouquets, contrasting well with the white flowers commonly employed at this season of the year.—B. S., in *The Garden*.

**

WE wish to call your attention to the advertisement of Ferns in collection on the 2d cover page of this issue.

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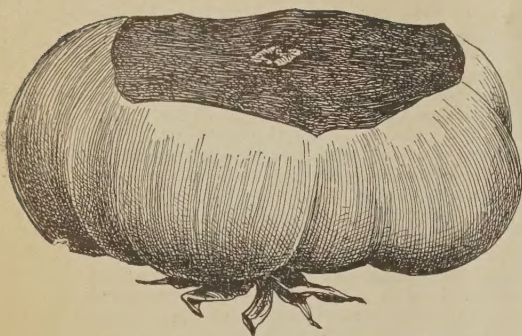
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ROT OF GREEN TOMATOES.

TOMATO ROT.

Specimens of diseased tomatoes were received the latter part of April from Duluth, Minn., with a request for information in regard to them. The sender in his letter referring to them, says:

The enclosed tomatoes are from vines in my greenhouse. They are McCollom's Hybrid, and about half of them are affected like these. Some vines have fruit half of which are all right and half like these. Can you give any explanation?

The writer was advised to use Bordeaux mixture, in accordance with the statements below.

From one of the specimens a drawing was prepared, as shown in the illustration herewith. The fruits were green, about half grown. The disease was further advanced in one specimen than in the others, the most advanced appearing as in the illustration; in the others a black spot at the blossom end showed its commencement. The disease is known under the common name of "rot," botanically the fungus is called *Macrosporium tomato*, Cooke. The description of it and the treatment given in Lodeman's "Spraying of Plants" is as follows:

This fungus generally attacks tomatoes when they are over one-half grown. The blossom end is attacked, the appearance of a small black spot being the first indication of the disease. This spot increases in size until fully half the tomato is destroyed. The diseased part is black and shrunken, and generally extends squarely across the tomato from side to side.

The warm, moist weather of summer appears to be particularly favorable to the development of this parasite.

Treatment.—Very thorough spraying with Bordeaux mixture or other copper compound, is perhaps the best preventive. If possible, a dry location should be selected for growing the plants, and the stems should be kept free from the ground.

This disease is mentioned in Bulletin No. 73, of the Ohio Agricultural Experiment Station, 1896, where it is called "Point rot." The following statements are made:

The rot of greenhouse tomatoes, at the point or blossom end, was a common trouble during the season of 1894 and 1895, in garden tomatoes. It has, also, been troublesome upon the forced plants in surface watered benches, while giving little trouble in sub-irrigated ones. Arthur has reported upon this disease, but without definite results as to cause.

Observations made for several years seem to show that this rot of green tomatoes is associated with insufficient moisture in the soil. The difference between the amount of rot in the surface watered and the sub-irrigated benches, before referred to, was most striking. The amount of rot in the surface watered was inversely as the amount of water taken up by the soil. Similar results have been secured by irrigation during drouth. Insufficient moisture is, therefore, apparently a condition, if not a cause, of this form of green rot.

The conclusion here expressed does not coincide with that of Lodeman as given above, and probably there is something further to be learned in relation to this disease.

SOME LATE BULLETINS.

From the U. S. Department of Agriculture recent bulletins have been received. Farmers' Bulletin No. 91 is entitled *Potato Diseases and their treatment*. This has been prepared by B. T. Galloway, Chief of the Division of Vegetable Physiology and Pathology, the mention of whose name is sufficient to recommend it for thoroughness and reliability.

Farmers' Bulletin No. 93 treats *Sugar as Food*, by Mary Hinman Abel. A very interesting treatise.

The Department also sends out Circulars Nos. 11 and 12, of the Division of Agrostology, with the titles, respectively, *The Flat Pea* and *Rape as a Forage Plant*. These Bulletins and Circulars are for free distribution and may be procured by applying for them to the Department of Agriculture, at Washington, D. C.

The New York Agricultural Experiment Station, at Geneva, N. Y., has issued Popular Editions of the following Bulletins:

No. 156—*Spraying will save the Pickle Crop*.

No. 127—*Why some Grapes fail to Fruit*.

No. 158—*How to handle the Striped Beetle on Cucumbers*.

The Forest Tent-Caterpillar is the title of Bulletin No. 64, by Clarence M. Weed, issued by the New Hampshire Agricultural Experiment Station.

The Hatch Experiment Station, at Amherst, Mass., sends out Bulletin No. 61, *The Asparagus Rust in Massachusetts*.

The Kentucky Agricultural Experiment Station, Lexington, Ky., has issued Bulletin No. 80, treating on: 1, *Some Pests likely to be Dis-seminated from Nurseries*; 2, *The Nursery Inspection Law*.

Also Bulletin No. 81: 1, *A method of avoiding Lettuce Rot*; 2, *Potato Scab Experiments*.

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THROUGH NATURE'S WONDERLAND.

The longest chapter in "Wonderland '99," under the heading noted, tells of Yellowstone Park. This unique region is so diverse and remarkable in its phenomena that it is possible to write of it year after year, practically without repetition. The chapter mentioned is quite different in its treatment of the subject from the one in "Wonderland '98." The park is indeed a Wonderland.

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